

09/045,072

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(FILE 'HOME' ENTERED AT 09:42:56 ON 29 MAR 2004)

FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS, LIFESCI' ENTERED AT 09:43:31 ON 29 MAR 2004

L1 8583 S PYRUVATE (A) CARBOXYLASE?
L2 7190 S GLUTAMICUM
L3 415 S L1 AND L2
L4 6447994 S CLON? OR EXPRESS? OR RECOMBINANT
L5 321 S L3 AND L4
L6 7054 S CORYNEBACTERIUM(A) L2
L7 414 S L1 AND L6
L8 321 S L4 AND L7
L9 254853 S LYSINE
L10 1966 S L9(A) (PRODUCT? OR MAK? OR MANUFACTUR?)
L11 108 S L8 AND L10
L12 92 DUP REM L11 (16 DUPLICATES REMOVED)
L13 79 S L8 AND MUTANT?
L14 15 S L10 AND L13
L15 7 DUP REM L14 (8 DUPLICATES REMOVED)
E SINSKEY A J/AU
L16 1165 S E3-E8
E LESSARD P A/AU
L17 85 S E3
E WILLIS L B/AU
L18 35 S E3
L19 1219 S L16 OR L17 OR L18
L20 26 S L7 AND L19
L21 8 DUP REM L20 (18 DUPLICATES REMOVED)

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NEWS	7	OCT 21	BIOSIS file reloaded and enhanced
NEWS	8	OCT 28	BIOSIS file segment of TOXCENTER reloaded and enhanced
NEWS	9	NOV 24	MSDS-CCOHS file reloaded
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NEWS	13	DEC 09	STN Entry Date available for display in REGISTRY and CA/CAPLUS
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NEWS	15	DEC 18	BIOTECHNO no longer updated
NEWS	16	DEC 19	CROPU no longer updated; subscriber discount no longer available
NEWS	17	DEC 22	Additional INPI reactions and pre-1907 documents added to CAS databases
NEWS	18	DEC 22	IFIPAT/IFIUDB/IFICDB reloaded with new data and search fields
NEWS	19	DEC 22	ABI-INFORM now available on STN
NEWS	20	JAN 27	Source of Registration (SR) information in REGISTRY updated and searchable
NEWS	21	JAN 27	A new search aid, the Company Name Thesaurus, available in CA/CAPLUS
NEWS	22	FEB 05	German (DE) application and patent publication number format changes
NEWS	23	MAR 03	MEDLINE and LMEDLINE reloaded
NEWS	24	MAR 03	MEDLINE file segment of TOXCENTER reloaded
NEWS	25	MAR 03	FRANCEPAT now available on STN
NEWS EXPRESS			MARCH 5 CURRENT WINDOWS VERSION IS V7.00A, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 3 MARCH 2004
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FILE 'LIFESCI' ENTERED AT 09:43:31 ON 29 MAR 2004
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=> s pyruvate (a) carboxylase?
L1 8583 PYRUVATE (A) CARBOXYLASE?

=> s glutamicum
L2 7190 GLUTAMICUM

=> s l1 and l2
L3 415 L1 AND L2

=> s clon? or express? or recombinant
5 FILES SEARCHED...
L4 6447994 CLON? OR EXPRESS? OR RECOMBINANT

=> s l3 and l4
L5 321 L3 AND L4

=> s corynebacterium(a)l2
L6 7054 CORYNEBACTERIUM(A) L2

=> s l1 and l6
L7 414 L1 AND L6

=> s l4 and l7
L8 321 L4 AND L7

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=> s lysine
L9      254853 LYSINE

=> s l9(a) (product? or mak? or manufactur?)
L10     1966 L9(A) (PRODUCT? OR MAK? OR MANUFACTUR?)

=> s l8 and l10
L11     108 L8 AND L10

=> dup rem l11
PROCESSING COMPLETED FOR L11
L12     92 DUP REM L11 (16 DUPLICATES REMOVED)

=> s l8 and mutant?
L13     79 L8 AND MUTANT?

=> s l10 and l13
L14     15 L10 AND L13

=> dup rem l14
PROCESSING COMPLETED FOR L14
L15     7 DUP REM L14 (8 DUPLICATES REMOVED)

=> d 1-7 ibib ab

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L15  ANSWER 1 OF 7  HCAPLUS  COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER:    2002:220796  HCAPLUS
DOCUMENT NUMBER:     136:261907
TITLE:               Sequences of pknB gene from corynebacteria and use
                      thereof in production of L-lysine
INVENTOR(S):         Bathe, Brigitte; Hans, Stephan; Farwick, Mike;
                      Hermann, Thomas
PATENT ASSIGNEE(S):  Degussa A.-G., Germany
SOURCE:              PCT Int. Appl., 46 pp.
                      CODEN: PIXXD2
DOCUMENT TYPE:        Patent
LANGUAGE:             English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

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PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002022828	A1	20020321	WO 2001-EP10211	20010905
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10120095	A1	20020328	DE 2001-10120095	20010425
AU 2001082132	A5	20020326	AU 2001-82132	20010905
EP 1317547	A1	20030611	EP 2001-960723	20010905
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2002042105	A1	20020411	US 2001-949970	20010912
PRIORITY APPLN. INFO.:				
			DE 2000-10044912 A	20000912
			DE 2001-10120095 A	20010425
			US 2001-297250P P	20010612
			WO 2001-EP10211 W	20010905
AB The pknB gene of <i>Corynebacterium glutamicum</i> ATCC13032				

encoding protein kinase B is **cloned** for use in increasing the efficiency of fermentation of L-lysine by coryneform bacteria. Methods and culture media for fermentative preparation of L-lysine with **recombinant** bacterial strains transformed with these vectors are also provided. Enhancement of the pknB gene **expression** by pknB shuttle vector could increase the yield of L-lysine in a Corynebacterium host. The fermentatively prepared L-lysine are useful in pharmaceutical industry and foodstuff industry and very particularly in animal nutrition.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 2 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:220795 HCAPLUS

DOCUMENT NUMBER: 136:261906

TITLE: Sequences of ptsI gene from corynebacteria and use thereof in production of L-lysine

INVENTOR(S): Moeckel, Bettina; Hans, Stephan; Schischka, Natalie; Pfefferle, Walter

PATENT ASSIGNEE(S): Degussa A.-G., Germany

SOURCE: PCT Int. Appl., 56 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002022827	A1	20020321	WO 2001-EP10072	20010831
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10045496	A1	20020328	DE 2000-10045496	20000914
AU 2001089858	A5	20020326	AU 2001-89858	20010831
EP 1317549	A1	20030611	EP 2001-969679	20010831
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2002132323	A1	20020919	US 2001-950788	20010913
US 6680187	B2	20040120		
US 2003198991	A1	20031023	US 2003-460294	20030613

PRIORITY APPLN. INFO.: DE 2000-10045496 A 20000914
WO 2001-EP10072 W 20010831
US 2001-950788 A3 20010913

AB The ptsI gene of **Corynebacterium glutamicum** ATCC13032 encoding phosphotransferase system enzyme I is **cloned** for use in increasing the efficiency of fermentation of L-lysine by coryneform bacteria. Methods and culture media for fermentative preparation of L-lysine with **recombinant** bacterial strains transformed with these vectors are also provided. Enhancement of the ptsI gene **expression** by ptsI shuttle vector could increase the yield of L-lysine in a Corynebacterium host. The fermentatively prepared L-lysine are useful in pharmaceutical industry and foodstuff industry and very particularly in animal nutrition.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 3 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:220607 HCAPLUS

DOCUMENT NUMBER: 136:261897

TITLE: Sequences of pknD gene from corynebacteria and use thereof in production of L-lysine
 INVENTOR(S): Bathe, Brigitte; Schroeder, Indra; Farwick, Mike; Hermann, Thomas
 PATENT ASSIGNEE(S): Degussa A.-G., Germany
 SOURCE: PCT Int. Appl., 46 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002022632	A2	20020321	WO 2001-EP10210	20010905
WO 2002022632	A3	20020613		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10120094	A1	20020328	DE 2001-10120094	20010425
AU 2001095539	A5	20020326	AU 2001-95539	20010905
EP 1317545	A2	20030611	EP 2001-976189	20010905
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2002039766	A1	20020404	US 2001-949971	20010912
PRIORITY APPLN. INFO.:				
			DE 2000-10044948 A	20000912
			DE 2001-10120094 A	20010425
			US 2001-297266P P	20010612
			WO 2001-EP10210 W	20010905

AB The pknD gene of *Corynebacterium glutamicum* ATCC13032 encoding protein kinase D is **cloned** for use in increasing the efficiency of fermentation of L-lysine by coryneform bacteria. Methods and culture media for fermentative preparation of L-lysine with **recombinant** bacterial strains transformed with these vectors are also provided. Enhancement of the pknD gene **expression** by pknD shuttle vector could increase the yield of L-lysine in a *Corynebacterium* host. The fermentatively prepared L-lysine are useful in pharmaceutical industry and foodstuff industry and very particularly in animal nutrition.

L15 ANSWER 4 OF 7 MEDLINE on STN DUPLICATE 1
 ACCESSION NUMBER: 2001483537 MEDLINE
 DOCUMENT NUMBER: PubMed ID: 11321586
 TITLE: **Pyruvate carboxylase** is a major bottleneck for glutamate and **lysine** production by *Corynebacterium glutamicum*.
 AUTHOR: Peters-Wendisch P G; Schiel B; Wendisch V F; Katsoulidis E; Mockel B; Sahm H; Eikmanns B J
 CORPORATE SOURCE: Dept Microbiology and Biotechnology, University of Ulm, Germany.
 SOURCE: Journal of molecular microbiology and biotechnology, (2001 Apr) 3 (2) 295-300.
 Journal code: 100892561. ISSN: 1464-1801.
 PUB. COUNTRY: England: United Kingdom
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 OTHER SOURCE: GENBANK-Y09548

ENTRY MONTH: 200108
ENTRY DATE: Entered STN: 20010903
Last Updated on STN: 20010903
Entered Medline: 20010830

AB **Corynebacterium glutamicum** possesses both phosphoenolpyruvate carboxylase (PEPCx) and **pyruvate carboxylase** (PCx) as anaplerotic enzymes for growth on carbohydrates. To analyze the significance of PCx for the amino acid production by this organism, the wild-type pyc gene, encoding PCx, was used for the construction of defined pyc-inactive and pyc-overexpressing strains and the glutamate, lysine and threonine production capabilities of these **recombinant** strains of *C. glutamicum* were tested in comparison to the respective host strains. No PCx activity was observed in the pyc-inactive **mutants** whereas the pyc-overexpressing strains showed eight-to elevenfold higher specific PCx activity when compared to the host strains. In a detergent-dependent glutamate production assay, the pyc-overexpressing strain showed more than sevenfold higher, the PCx-deficient strain about twofold lower glutamate production than the wild-type. Overexpression of the pyc gene and thus increasing the PCx activity in a lysine-producing strain of *C. glutamicum* resulted in approximately 50% higher lysine accumulation in the culture supernatant whereas inactivation of the pyc gene led to a decrease by 60%. In a threonine-producing strain of *C. glutamicum*, the overexpression of the pyc gene led to an only 10 to 20% increase in threonine production, however, to a more than 150% increase in the production of the threonine precursor homoserine. These results identify the anaplerotic PCx reaction as a major bottleneck for amino acid production by *C. glutamicum* and show that the enzyme is an important target for the molecular breeding of hyperproducing strains.

L15 ANSWER 5 OF 7 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN DUPLICATE 2

ACCESSION NUMBER: 97147233 EMBASE
DOCUMENT NUMBER: 1997147233
TITLE: **Pyruvate carboxylase** as an anaplerotic enzyme in **Corynebacterium glutamicum**.
AUTHOR: Peters-Wendisch P.G.; Wendisch V.F.; Paul S.; Eikmanns B.J.; Sahm H.
CORPORATE SOURCE: B.J. Eikmanns, Institut fur Biotechnologie, Forschungszentrum Julich, D-52425 Julich, Germany. b.eikmanns@kfa-juelich.de
SOURCE: Microbiology, (1997) 143/4 (1095-1103).
Refs: 46
ISSN: 1350-0872 CODEN: MROBEO
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 004 Microbiology
029 Clinical Biochemistry
LANGUAGE: English
SUMMARY LANGUAGE: English

AB The recent discovery that phosphoenolpyruvate carboxylase (PEPCx) is dispensable for growth and **lysine production** in **Corynebacterium glutamicum** implies that this organism possesses (an) alternative anaplerotic enzyme(s). In permeabilized cells of *C. glutamicum*, we detected **pyruvate carboxylase** (PCx) activity. This activity was effectively inhibited by low concentrations of ADP, AMP and acetyl-CoA. PCx activity was highest [45 \pm 5 nmol min⁻¹ (mg dry wt)⁻¹] in cells grown on lactate or pyruvate, and was about two- to threefold lower when the cells were grown on glucose or acetate, suggesting that formation of PCx is regulated by the carbon source in the growth medium. In cells grown at low concentrations of biotin (< 5 μ g l⁻¹), PCx activity was drastically reduced, indicating that the enzyme is a biotin protein. Growth experiments with the wild-type and a defined PEPCx-negative **mutant** of *C. glutamicum* on glucose

showed that the **mutant** has a significantly higher demand for biotin than the wild-type, whereas both strains have the same high biotin requirement for growth on lactate and the same low biotin requirement for growth on acetate. These results indicate that (i) PCx is an essential anaplerotic enzyme for growth on glucose in the absence of PEPCx, (ii) PCx is an essential anaplerotic enzyme for growth on lactate even in the presence of PEPCx, and (iii) PCx has no anaplerotic significance for growth on acetate as the carbon source. In support of these conclusions, screening for **clones** unable to grow on a minimal medium containing lactate, but able to grow on a medium containing glucose or acetate, led to the isolation of PCx-defective **mutants** of *C. glutamicum*.

L15 ANSWER 6 OF 7 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
 ACCESSION NUMBER: 96:540057 SCISEARCH
 THE GENUINE ARTICLE: UX143
 TITLE: C-3-CARBOXYLATION AS AN ANAPLEROTIC REACTION IN
 PHOSPHOENOLPYRUVATE CARBOXYLASE-DEFICIENT
CORYNEBACTERIUM-GLUTAMICUM
 AUTHOR: PETERSWENDISCH P G; WENDISCH V F; DEGRAAF A A; EIKMANN B
 J (Reprint); SAHM H
 CORPORATE SOURCE: KFA JULICH GMBH, FORSCHUNGSZENTRUM, INST BIOTECHNOL 1,
 D-52425 JULICH, GERMANY (Reprint); KFA JULICH GMBH,
 FORSCHUNGSZENTRUM, INST BIOTECHNOL 1, D-52425 JULICH,
 GERMANY
 COUNTRY OF AUTHOR: GERMANY
 SOURCE: ARCHIVES OF MICROBIOLOGY, (JUN 1996) Vol. 165, No. 6, pp.
 387-396.
 ISSN: 0302-8933.
 DOCUMENT TYPE: Article; Journal
 FILE SEGMENT: LIFE
 LANGUAGE: ENGLISH
 REFERENCE COUNT: 46

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Phosphoenolpyruvate carboxylase (PEPCx) has recently been found to be dispensable as an anaplerotic enzyme for growth and **lysine production** of *Corynebacterium glutamicum*. To clarify the role of the glyoxylate cycle as a possible alternative anaplerotic sequence, defined PEPCx- and isocitrate-lyase (ICL)-negative double **mutants** of *C. glutamicum* wild-type and of the L-lysine-producing strain MH20-22B were constructed by disruption of the respective genes. Analysis of these **mutants** revealed that the growth on glucose and the **lysine productivity** were identical to that of the parental strains. These results show that PEPCx and the glyoxylate cycle are not essential for growth of *C. glutamicum* on glucose and for **lysine production** and prove the presence of another anaplerotic reaction in this organism. To study the anaplerotic pathways in *C. glutamicum* further, (HCO₃⁻)-C-13-labeling experiments were performed with cells of the wild-type and a PEPCx-negative strain growing on glucose. Proton nuclear magnetic resonance analysis of threonine isolated from cell protein of both strains revealed the same labeling pattern: about 37% C-13 enrichment in C-4 and 3.5% C-13 enrichment in C-1. Since the carbon backbone of threonine corresponds to that of oxaloacetate, the label in C-4 of threonine positively identifies the anaplerotic pathway as a C-3-carboxylation reaction that also takes place in the absence of PEPCx.

L15 ANSWER 7 OF 7 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
 ACCESSION NUMBER: 94:177461 SCISEARCH
 THE GENUINE ARTICLE: MZ715
 TITLE: EFFECTS OF PHOSPHOENOL PYRUVATE-
 CARBOXYLASE DEFICIENCY ON METABOLISM AND
 LYSINE PRODUCTION IN
CORYNEBACTERIUM-GLUTAMICUM

AUTHOR: GUBLER M (Reprint); PARK S M; JETTEN M; STEPHANOPOULOS G;
SINSKEY A J
CORPORATE SOURCE: HOFFMANN LA ROCHE AG, CH-4002 BASEL, SWITZERLAND
(Reprint); MIT, DEPT BIOL, CAMBRIDGE, MA, 02139; MIT, DEPT
CHEM ENGN, CAMBRIDGE, MA, 02139
COUNTRY OF AUTHOR: SWITZERLAND; USA
SOURCE: APPLIED MICROBIOLOGY AND BIOTECHNOLOGY, (FEB 1994) Vol.
40, No. 6, pp. 857-863.
ISSN: 0175-7598.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE; AGRI
LANGUAGE: ENGLISH
REFERENCE COUNT: 33

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The phosphoenol **pyruvate carboxylase** gene (ppc) of
lysine-producing **Corynebacterium glutamicum** and *C.*
lactofermentum strains was inactivated by marker exchange mutagenesis. The
mutants lacked completely phosphoenol **pyruvate**
carboxylase (PEP carboxylase) activity, but grew in minimal medium
containing glucose as the sole carbon source. In addition, the ppc(-)
strains produced equivalent titers of lysine in shake flasks and in 10-1
fermentation experiments as their parent strains. To address the question
of how ppc(-) *Corynebacterium* strains generate oxaloacetate (OAA) for
their own metabolism as well as for high-level **lysine**
production, we measured the activities of enzymes leading to OAA
synthesis. Whereas **pyruvate carboxylase** activity was
not detected in any of the strains, phosphoenol pyruvate carboxykinase
(PEP carboxykinase) activity was found to be significantly higher in *C.*
glutamicum ppc **mutants** compared to the parent strains. On the
other hand, PEP carboxykinase activity in *C. lactofermentum* was
essentially absent. As glyoxylate cycle enzymes are strongly repressed by
glucose, they are not likely to compensate for the lack of PEP carboxylase
activity. PEP carboxykinase, among several candidates, could play this
role.

=> d his

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FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS,
LIFESCI' ENTERED AT 09:43:31 ON 29 MAR 2004

L1 8583 S PYRUVATE (A) CARBOXYLASE?
L2 7190 S GLUTAMICUM
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L5 321 S L3 AND L4
L6 7054 S CORYNEBACTERIUM(A) L2
L7 414 S L1 AND L6
L8 321 S L4 AND L7
L9 254853 S LYSINE
L10 1966 S L9(A) (PRODUCT? OR MAK? OR MANUFACTUR?)
L11 108 S L8 AND L10
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L13 79 S L8 AND MUTANT?
L14 15 S L10 AND L13
L15 7 DUP REM L14 (8 DUPLICATES REMOVED)

=> d l12 1-92 ibib

L12 ANSWER 1 OF 92 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
ACCESSION NUMBER: 2004:114571 SCISEARCH
THE GENUINE ARTICLE: 767NG
TITLE: A gene homologous to beta-type carbonic anhydrase is

essential for the growth of **Corynebacterium glutamicum** under atmospheric conditions

AUTHOR: Mitsuhashi S; Ohnishi J; Hayashi M; Ikeda M (Reprint)

CORPORATE SOURCE: Kyowa Hakko Kogyo Co Ltd, Tokyo Res Labs, Tokyo 1948533, Japan (Reprint)

COUNTRY OF AUTHOR: Japan

SOURCE: APPLIED MICROBIOLOGY AND BIOTECHNOLOGY, (MAY 2004) Vol. 63, No. 5, pp. 592-601.
 Publisher: SPRINGER-VERLAG, 175 FIFTH AVE, NEW YORK, NY 10010 USA.
 ISSN: 0175-7598.

DOCUMENT TYPE: Article; Journal

LANGUAGE: English

REFERENCE COUNT: 50

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

L12 ANSWER 2 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:696453 HCAPLUS

DOCUMENT NUMBER: 139:213002

TITLE: Sequence of glbO gene from corynebacteria and use thereof in synthesis of L-lysine

INVENTOR(S): Mockel, Bettina; Marx, Achim; Pfefferle, Walter

PATENT ASSIGNEE(S): Germany

SOURCE: U.S. Pat. Appl. Publ., 14 pp., Cont.-in-part of U.S. Ser. No. 813,932.
 CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003166173	A1	20030904	US 2002-139520	20020507
US 2002081673	A1	20020627	US 2001-813932	20010322
PRIORITY APPLN. INFO.:			US 2000-585642	B2 20000602
			US 2001-813932	A2 20010322

L12 ANSWER 3 OF 92 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN

ACCESSION NUMBER: 2003:903474 SCISEARCH

THE GENUINE ARTICLE: 732TC

TITLE: Fructose-1,6-bisphosphatase from **Corynebacterium glutamicum**: expression and deletion of the fbp gene and biochemical characterization of the enzyme

AUTHOR: Rittmann D; Schaffer S; Wendisch V F (Reprint); Sahm H

CORPORATE SOURCE: KFA Julich GmbH, Forschungszentrum, Inst Biotechnol 1, Postfach 1913, D-52425 Julich, Germany (Reprint); KFA Julich GmbH, Forschungszentrum, Inst Biotechnol 1, D-52425 Julich, Germany

COUNTRY OF AUTHOR: Germany

SOURCE: ARCHIVES OF MICROBIOLOGY, (OCT 2003) Vol. 180, No. 4, pp. 285-292.
 Publisher: SPRINGER-VERLAG, 175 FIFTH AVE, NEW YORK, NY 10010 USA.
 ISSN: 0302-8933.

DOCUMENT TYPE: Article; Journal

LANGUAGE: English

REFERENCE COUNT: 47

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

L12 ANSWER 4 OF 92 MEDLINE on STN

ACCESSION NUMBER: 2003016605 MEDLINE

DOCUMENT NUMBER: PubMed ID: 12523389

TITLE: Biotechnological manufacture of lysine.
 AUTHOR: Pfefferle Walter; Mockel Bettina; Bathe Brigitte; Marx Achim
 CORPORATE SOURCE: Degussa AG, Feed Additives Division, R&D Feed Additives/Biotechnology, Kantstrasse 2, 33790 Hale-Kuensebeck, Germany.. walter.pfefferle@degussa.com
 SOURCE: Advances in biochemical engineering/biotechnology, (2003) 79 59-112. Ref: 198
 Journal code: 8307733. ISSN: 0724-6145.
 PUB. COUNTRY: Germany: Germany, Federal Republic of
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 General Review; (REVIEW)
 (REVIEW, TUTORIAL)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 200302
 ENTRY DATE: Entered STN: 20030114
 Last Updated on STN: 20030215
 Entered Medline: 20030214

L12 ANSWER 5 OF 92 MEDLINE on STN DUPLICATE 1
 ACCESSION NUMBER: 2003228790 MEDLINE
 DOCUMENT NUMBER: PubMed ID: 12749842
 TITLE: Engineering metabolism and product formation in **Corynebacterium glutamicum** by coordinated gene overexpression.
 AUTHOR: Koffas Mattheos A G; Jung Gyoo Yeol; Stephanopoulos Gregory
 CORPORATE SOURCE: Department of Chemical Engineering, Massachusetts Institute of Technology, Room 56-469 77, Cambridge, MA 02139, USA.. gregstep@mit.edu
 SOURCE: Metabolic engineering, (2003 Jan) 5 (1) 32-41.
 Journal code: 9815657. ISSN: 1096-7176.
 PUB. COUNTRY: United States
 DOCUMENT TYPE: (EVALUATION STUDIES)
 Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 200401
 ENTRY DATE: Entered STN: 20030517
 Last Updated on STN: 20040123
 Entered Medline: 20040122

L12 ANSWER 6 OF 92 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN
 ACCESSION NUMBER: 2002-15776 BIOTECHDS
 TITLE: Novel polynucleotide from Coryneform bacteria coding for PPGK gene, useful as hybridization probe for detecting DNA to isolate nucleic acids, polynucleotides or genes coding for transcription activator ppgK;
 recombinant Corynebacterium glutamicum production useful for L-amino acid production, especially L-lysine production
 AUTHOR: BATHE B; MARTENS M; HERMANN T
 PATENT ASSIGNEE: DEGUSSA AG
 PATENT INFO: WO 2002026755 4 Apr 2002
 APPLICATION INFO: WO 2000-EP9784 26 Sep 2000
 PRIORITY INFO: DE 2000-1047403 26 Sep 2000
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 OTHER SOURCE: WPI: 2002-444014 [47]

L12 ANSWER 7 OF 92 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN
 ACCESSION NUMBER: 2002-12968 BIOTECHDS
 TITLE: New ppsA gene of Coryneform bacteria, useful when

overexpressed, for increasing fermentative production of L-amino acids, encodes a phosphoenol pyruvate synthase; vector-mediated pyruvate-water-dikinase gene transfer and **expression** in *Coryneform glutamicum* for enzyme activity enhancement for L-lysine **production**

AUTHOR: MOECKEL B; MARX A; BASTUCK C; BUCHHOLZ M; PFEFFERLE W
PATENT ASSIGNEE: DEGUSSA AG
PATENT INFO: WO 2002022829 21 Mar 2002
APPLICATION INFO: WO 2000-EP9456 13 Sep 2000
PRIORITY INFO: DE 2000-1045497 13 Sep 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-362348 [39]

L12 ANSWER 8 OF 92 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN
ACCESSION NUMBER: 2002-13248 BIOTECHDS
TITLE: Novel polynucleotide from coryneform bacteria coding for phosphotransferase system enzyme I, useful for isolating nucleic acids, polynucleotides or genes which code for phosphotransferase system enzyme I;
bacterium strain improvement useful for L-amino acid, especially L-lysine, **production**

AUTHOR: MOECKEL B; HANS S; SCHISCHKA N; PFEFFERLE W
PATENT ASSIGNEE: DEGUSSA AG
PATENT INFO: WO 2002022827 21 Mar 2002
APPLICATION INFO: WO 2000-EP10072 13 Sep 2000
PRIORITY INFO: DE 2000-1045496 13 Sep 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-383131 [41]

L12 ANSWER 9 OF 92 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN
ACCESSION NUMBER: 2002-13334 BIOTECHDS
TITLE: New pknD gene of Coryneform bacteria, useful when overexpressed, for increasing fermentative production of L-amino acids, encodes a protein kinase D protein; plasmid pK18mobsac-pknD-XuctionL-mediated enzyme gene transfer and **expression** in *Escherichia coli* and *Corynebacterium glutamicum* for L-lysine **production**

AUTHOR: BATHE B; SCHROEDER I; FARWICK M; HERMANN T
PATENT ASSIGNEE: DEGUSSA AG
PATENT INFO: WO 2002022632 21 Mar 2002
APPLICATION INFO: WO 2000-EP10210 12 Sep 2000
PRIORITY INFO: DE 2001-1020094 25 Apr 2001
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-371967 [40]

L12 ANSWER 10 OF 92 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN
ACCESSION NUMBER: 2002-11054 BIOTECHDS
TITLE: Novel polynucleotide from Coryneform bacteria coding for lysR3 gene, useful as a probe for detecting DNA to isolate nucleic acids coding for transcription regulator lysR3 or for producing L-amino acids, e.g., L-lysine and L-valine; bacterium **recombinant** protein gene, vector **expression** in host cell, for L-valine and L-lysine **production**

AUTHOR: MOECKEL B; KREUTZER C
PATENT ASSIGNEE: DEGUSSA AG
PATENT INFO: WO 2002012505 14 Feb 2002
APPLICATION INFO: WO 2000-EP7765 10 Aug 2000
PRIORITY INFO: US 2001-867537 31 May 2001

DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-227156 [28]

L12 ANSWER 11 OF 92 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN
ACCESSION NUMBER: 2003-00063 BIOTECHDS

TITLE: Novel polynucleotides from **Corynebacterium glutamicum** useful for inducing and regulating **expression** of genes, including those that are involved in amino acid biosynthesis, in bacterial cells; **recombinant** protein production via plasmid **expression** in host cell for enzyme transcription regulation and amino acid production

AUTHOR: RAYAPATI P J; CRAFTON C M
PATENT ASSIGNEE: RAYAPATI P J; CRAFTON C M
PATENT INFO: WO 2002040679 23 May 2002
APPLICATION INFO: WO 2001-US43096 '15 Nov 2001
PRIORITY INFO: US 2000-248219 15 Nov 2000; US 2000-248219 15 Nov 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-575217 [61]

L12 ANSWER 12 OF 92 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN
ACCESSION NUMBER: 2002-17445 BIOTECHDS

TITLE: New hemD and hemB genes and polypeptides of coryneform bacteria, useful, when overexpressed, for increasing fermentative production of amino acids; plasmid-mediated uroporphyrinogen-III synthase and delta-aminolevulinic acid dehydratase gene transfer and **expression** in **Corynebacterium glutamicum** for L-lysine **production**

AUTHOR: FARWICK M; HUTHMACHER K; SCHISCHKA N; MARX A; PFEFFERLE W
PATENT ASSIGNEE: DEGUSSA AG
PATENT INFO: DE 10145585 2 May 2002
APPLICATION INFO: DE 2000-1045585 28 Oct 2000
PRIORITY INFO: DE 2000-1053708 28 Oct 2000
DOCUMENT TYPE: Patent
LANGUAGE: German
OTHER SOURCE: WPI: 2002-445647 [48]

L12 ANSWER 13 OF 92 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN
ACCESSION NUMBER: 2002-15600 BIOTECHDS

TITLE: New tmk gene of Coryneform bacteria, useful when suppressed, for increasing fermentative production of L-amino acids, encodes a thymidylate kinase; **L-lysine production** by **recombinant Corynebacterium glutamicum** useful for food, medicine and pharmaceutical industry

AUTHOR: FARWICK M; HUTHMACHER K; MARX A; PFEFFERLE W
PATENT ASSIGNEE: DEGUSSA AG
PATENT INFO: DE 10140095 28 Mar 2002
APPLICATION INFO: DE 2000-1040095 19 Sep 2000
PRIORITY INFO: DE 2000-1046235 19 Sep 2000
DOCUMENT TYPE: Patent
LANGUAGE: German
OTHER SOURCE: WPI: 2002-341601 [38]

L12 ANSWER 14 OF 92 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN
ACCESSION NUMBER: 2003-07731 BIOTECHDS

TITLE: New metD gene of coryneform bacteria, useful when suppressed, for increasing fermentative production of L-amino acids, e.g. for animal nutrition;

Corynebacterium glutamicum
fermentation for methionine and lysine
production

AUTHOR: REY D; RUECKERT C; BATHE B; HUTHMACHER K; PFEFFERLE W;
PUEHLER A; KALINOWSKI J
PATENT ASSIGNEE: DEGUSSA AG
PATENT INFO: DE 10126164 5 Dec 2002
APPLICATION INFO: DE 2001-1026164 30 May 2001
PRIORITY INFO: DE 2001-1026164 30 May 2001; DE 2001-1026164 30 May 2001
DOCUMENT TYPE: Patent
LANGUAGE: German
OTHER SOURCE: WPI: 2003-141912 [14]

L12 ANSWER 15 OF 92 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN
ACCESSION NUMBER: 2002-16217 BIOTECHDS
TITLE: New ccpA2 gene from coryneform bacteria, useful, when
suppressed, for increasing fermentative production of L-amino
acids, particularly lysine;
metabolic engineering for L-lysine
production in **Corynebacterium**
glutamicum

AUTHOR: MOECKEL B; KREUTZER C; HERMANN T; FARWICK M; MARX A;
PFEFFERLE W
PATENT ASSIGNEE: DEGUSSA AG
PATENT INFO: DE 10123071 7 Mar 2002
APPLICATION INFO: DE 2000-1023071 26 Aug 2000
PRIORITY INFO: DE 2000-1042053 26 Aug 2000
DOCUMENT TYPE: Patent
LANGUAGE: German
OTHER SOURCE: WPI: 2002-363955 [40]

L12 ANSWER 16 OF 92 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN
ACCESSION NUMBER: 2003-07033 BIOTECHDS
TITLE: New isolated polynucleotide from coryneform bacteria, useful
for increasing production of amino acids, comprises extended
genes for 1- or 6- phosphofructokinase;
lysine production by
Corynebacterium glutamicum

AUTHOR: FARWICK M; BATHE B; BREHME J; HUTHMACHER K
PATENT ASSIGNEE: DEGUSSA AG
PATENT INFO: DE 10112992 26 Sep 2002
APPLICATION INFO: DE 2001-1012992 17 Mar 2001
PRIORITY INFO: DE 2001-1012992 17 Mar 2001; DE 2001-1012992 17 Mar 2001
DOCUMENT TYPE: Patent
LANGUAGE: German
OTHER SOURCE: WPI: 2003-141736 [14]

L12 ANSWER 17 OF 92 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN
ACCESSION NUMBER: 2002-14317 BIOTECHDS
TITLE: New cstA gene from coryneform bacteria, useful, when
overexpressed, for increasing fermentative production of
L-amino acids e.g. lysine and as hybridization probe;
carbon starvation protein-A cstA gene overexpression via
vector **expression** in host cell for L-
lysine production

AUTHOR: MOECKEL B; MARX A; HERMANN T; FARWICK M; PFEFFERLE W
PATENT ASSIGNEE: DEGUSSA AG
PATENT INFO: DE 10042051 7 Mar 2002
APPLICATION INFO: DE 2000-1042051 26 Aug 2000
PRIORITY INFO: DE 2000-1042051 26 Aug 2000
DOCUMENT TYPE: Patent
LANGUAGE: German
OTHER SOURCE: WPI: 2002-293372 [34]

L12 ANSWER 18 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:332215 HCAPLUS
 DOCUMENT NUMBER: 136:354247
 TITLE: Sequences of hemD and hmB gene from corynebacteria and use thereof in production of L-lysine
 INVENTOR(S): Farwick, Mike; Huthmacher, Klaus; Pfefferle, Walter; Schischka, Natalie; Marx, Achim
 PATENT ASSIGNEE(S): Degussa AG, Germany
 SOURCE: PCT Int. Appl., 49 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002034775	A2	20020502	WO 2001-EP11705	20011010
WO 2002034775	A3	20020919		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
DE 10145585	A1	20020502	DE 2001-10145585	20010915
AU 2002018223	A5	20020506	AU 2002-18223	20011010
PRIORITY APPLN. INFO.:			DE 2000-10053708 A	20001028
			DE 2001-10145585 A	20010915
			WO 2001-EP11705 W	20011010

L12 ANSWER 19 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:256495 HCAPLUS
 DOCUMENT NUMBER: 136:293614
 TITLE: Sequence of mike17 gene from corynebacteria and use thereof in synthesis of L-lysine
 INVENTOR(S): Farwick, Mike; Huthmacher, Klaus; Pfefferle, Walter
 PATENT ASSIGNEE(S): Degussa A.-G., Germany
 SOURCE: PCT Int. Appl., 44 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002027009	A1	20020404	WO 2001-EP8781	20010728
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
DE 10113958	A1	20020418	DE 2001-10113958	20010322
US 2002106749	A1	20020808	US 2001-825293	20010404
AU 2001095445	A5	20020408	AU 2001-95445	20010728
PRIORITY APPLN. INFO.:			DE 2000-10047867 A	20000927

DE 2001-10113958 A 20010322
WO 2001-EP8781 W 20010728

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 20 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:256486 HCAPLUS
DOCUMENT NUMBER: 136:275995
TITLE: The dep67 gene of Corynebacterium encoding an efflux
protein for use in engineering lysine biosynthesis
INVENTOR(S): Farwick, Mike; Huthmacher, Klaus; Hermann, Thomas;
Bathe, Brigitte; Pfefferle, Walter
PATENT ASSIGNEE(S): Degussa A.-G., Germany
SOURCE: PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002027000	A1	20020404	WO 2001-EP10942	20010921
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
DE 10047866	A1	20020411	DE 2000-10047866	20000927
AU 2001095580	A5	20020408	AU 2001-95580	20010921
US 2002086374	A1	20020704	US 2001-963679	20010927
PRIORITY APPLN. INFO.:			DE 2000-10047866 A	20000927
			WO 2001-EP10942 W	20010921

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 21 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:256478 HCAPLUS
DOCUMENT NUMBER: 136:278228
TITLE: The cobW gene of Corynebacterium encoding a cobalamin
synthesis related protein for use in engineering
lysine biosynthesis
INVENTOR(S): Farwick, Mike; Huthmacher, Klaus; Schischka, Natalie;
Pfefferle, Walter
PATENT ASSIGNEE(S): Degussa A.-G., Germany
SOURCE: PCT Int. Appl., 41 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002026992	A1	20020404	WO 2001-EP8989	20010803
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ,			

VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
 BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

DE 10117815 A1 20020418 DE 2001-10117815 20010410
 AU 2001091729 A5 20020408 AU 2001-91729 20010803
 EP 1320610 A1 20030625 EP 2001-971862 20010803

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

US 2002102668 A1 20020801 US 2001-946785 20010906

PRIORITY APPLN. INFO.: DE 2000-10047863 A 20000927
 DE 2001-10117815 A 20010410
 WO 2001-EP8989 W 20010803

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 22 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:256476 HCAPLUS
 DOCUMENT NUMBER: 136:293613
 TITLE: Sequences of msik gene from corynebacteria and use
 thereof in production of L-lysine
 INVENTOR(S): Bathe, Brigitte; Schischka, Natalie; Farwick, Mike;
 Pfefferle, Walter
 PATENT ASSIGNEE(S): Degussa A.-G., Germany
 SOURCE: PCT Int. Appl., 33 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002026989	A1	20020404	WO 2001-EP10770	20010918
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10047404	A1	20020411	DE 2000-10047404	20000926
AU 2002014980	A5	20020408	AU 2002-14980	20010918
EP 1320608	A1	20030625	EP 2001-983483	20010918
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2002103357	A1	20020801	US 2001-962618	20010926
PRIORITY APPLN. INFO.: DE 2000-10047404 A 20000926 WO 2001-EP10770 W 20010918				
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT				

L12 ANSWER 23 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:256307 HCAPLUS
 DOCUMENT NUMBER: 136:293612
 TITLE: Sequence of dead gene from corynebacteria and use
 thereof in synthesis of L-lysine
 INVENTOR(S): Farwick, Mike; Huthmacher, Klaus; Brehme, Jennifer;
 Pfefferle, Walter
 PATENT ASSIGNEE(S): Degussa A.-G., Germany
 SOURCE: PCT Int. Appl., 52 pp.
 CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002026787	A1	20020404	WO 2001-EP10772	20010918
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10047865	A1	20020418	DE 2000-10047865	20000927
AU 2001093821	A5	20020408	AU 2001-93821	20010918
EP 1320544	A1	20030625	EP 2001-974264	20010918
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2002115161	A1	20020822	US 2001-963790	20010927
PRIORITY APPLN. INFO.: DE 2000-10047865 A 20000927 WO 2001-EP10772 W 20010918				
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT				

L12 ANSWER 24 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:256306 HCAPLUS
DOCUMENT NUMBER: 136:293611
TITLE: Sequences of truB gene from corynebacteria and use thereof in production of L-lysine
INVENTOR(S): Farwick, Mike; Huthmacher, Klaus; Pfefferle, Walter; Bathe, Brigitte
PATENT ASSIGNEE(S): Degussa A.-G., Germany
SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002026786	A1	20020404	WO 2001-EP10771	20010918
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10047864	A1	20020411	DE 2000-10047864	20000927
AU 2002012255	A5	20020408	AU 2002-12255	20010918
US 2002115160	A1	20020822	US 2001-963690	20010927
PRIORITY APPLN. INFO.: DE 2000-10047864 A 20000927 WO 2001-EP10771 W 20010918				
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT				

L12 ANSWER 25 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:240987 HCAPLUS
 DOCUMENT NUMBER: 136:278224
 TITLE: Sequence of pepC gene from corynebacteria and use thereof in synthesis of L-lysine
 INVENTOR(S): Farwick, Mike; Huthmacher, Klaus; Bathe, Brigitte; Rieping, Mechthild; Pfefferle, Walter
 PATENT ASSIGNEE(S): Degussa A.-G., Germany
 SOURCE: PCT Int. Appl., 43 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002024928	A1	20020328	WO 2001-EP8708	20010727
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10108828	A1	20020328	DE 2001-10108828	20010223
US 2002098554	A1	20020725	US 2001-804073	20010313
AU 2001089765	A5	20020402	AU 2001-89765	20010727
PRIORITY APPLN. INFO.:				
DE 2000-10046229 A 20000919				
DE 2001-10108828 A 20010223				
WO 2001-EP8708 W 20010727				
REFERENCE COUNT:	4	THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L12 ANSWER 26 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:240981 HCAPLUS
 DOCUMENT NUMBER: 136:278223
 TITLE: Sequence of def gene from corynebacteria and use thereof in synthesis of L-lysine
 INVENTOR(S): Farwick, Mike; Huthmacher, Klaus; Brehme, Jennifer; Pfefferle, Walter
 PATENT ASSIGNEE(S): Degussa A.-G., Germany
 SOURCE: PCT Int. Appl., 41 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002024922	A1	20020328	WO 2001-EP8602	20010725
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10113957	A1	20020411	DE 2001-10113957	20010322
US 2002106750	A1	20020808	US 2001-825345	20010404

AU 2001082023 A5 20020402 AU 2001-82023 20010725
 PRIORITY APPLN. INFO.: DE 2000-10046228 A 20000919
 DE 2001-10113957 A 20010322
 WO 2001-EP8602 W 20010725
 REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 27 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:240978 HCAPLUS
 DOCUMENT NUMBER: 136:278222
 TITLE: Sequences of thyA gene from corynebacteria and use
 thereof in production of L-lysine
 INVENTOR(S): Marx, Achim; Schischka, Natalie; Bathe, Brigitte;
 Farwick, Mike
 PATENT ASSIGNEE(S): Degussa A.-G., Germany
 SOURCE: PCT Int. Appl., 44 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002024919	A1	20020328	WO 2001-EP9170	20010808
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10133162	A1	20020404	DE 2001-10133162	20010707
AU 2001079809	A5	20020402	AU 2001-79809	20010808
EP 1319076	A1	20030618	EP 2001-958061	20010808
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2002107379	A1	20020808	US 2001-954197	20010918
PRIORITY APPLN. INFO.: DE 2000-10046626 A 20000920 DE 2001-10133162 A 20010707 WO 2001-EP9170 W 20010808				
REFERENCE COUNT:	5	THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L12 ANSWER 28 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:240974 HCAPLUS
 DOCUMENT NUMBER: 136:278221
 TITLE: Sequences of dctA gene from corynebacteria and use
 thereof in production of L-lysine
 INVENTOR(S): Farwick, Mike; Huthmacher, Klaus; Bathe, Brigitte;
 Hermann, Thomas; Pfefferle, Walter
 PATENT ASSIGNEE(S): Degussa A.-G., Germany
 SOURCE: PCT Int. Appl., 45 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002024915	A1	20020328	WO 2001-EP9099	20010807

WO 2002024915 C1 20020613

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,
RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ,
VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

DE 10132724 A1 20020411 DE 2001-10132724 20010705

AU 2001093731 A5 20020402 AU 2001-93731 20010807

US 2002106759 A1 20020808 US 2001-951780 20010914

PRIORITY APPLN. INFO.: DE 2000-10046230 A 20000919

DE 2001-10132724 A 20010705

WO 2001-EP9099 W 20010807

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 29 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:240941 HCAPLUS

DOCUMENT NUMBER: 136:278220

TITLE: Sequences of ndkA gene from corynebacteria and use
thereof in production of L-lysine

INVENTOR(S): Bathe, Brigitte; Bastuck, Christine; Marx, Achim;
Hermann, Thomas

PATENT ASSIGNEE(S): Degussa A.-G., Germany

SOURCE: PCT Int. Appl., 39 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002024880	A1	20020328	WO 2001-EP10527	20010912

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL,
PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG,
UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

DE 10046625 A1 20020411 DE 2000-10046625 20000920

AU 2001085947 A5 20020402 AU 2001-85947 20010912

EP 1319065 A1 20030618 EP 2001-965276 20010912

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

US 2002090685 A1 20020711 US 2001-955286 20010919

PRIORITY APPLN. INFO.: DE 2000-10046625 A 20000920

WO 2001-EP10527 W 20010912

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 30 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:240813 HCAPLUS

DOCUMENT NUMBER: 136:278218

TITLE: Sequences of dps gene from corynebacteria and use
thereof in production of L-lysine

INVENTOR(S): Bathe, Brigitte; Kreutzer, Caroline; Rieping,
Mechthild; Marx, Achim; Farwick, Mike; Pfefferle,

PATENT ASSIGNEE(S): Walter
 SOURCE: Degussa A.-G., Germany
 PCT Int. Appl., 39 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002024737	A1	20020328	WO 2001-EP10523	20010912
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10046623	A1	20020328	DE 2000-10046623	20000920
AU 2002012232	A5	20020402	AU 2002-12232	20010912
EP 1319019	A1	20030618	EP 2001-980373	20010912
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2002106760	A1	20020808	US 2001-955315	20010919
PRIORITY APPLN. INFO.: DE 2000-10046623 A 20000920 WO 2001-EP10523 W 20010912				
REFERENCE COUNT:	5	THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L12 ANSWER 31 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:240792 HCAPLUS
 DOCUMENT NUMBER: 136:278217
 TITLE: Sequence of tmk gene from corynebacteria and use thereof in synthesis of L-lysine
 INVENTOR(S): Farwick, Mike; Huthmacher, Klaus; Marx, Achim; Pfefferle, Walter
 PATENT ASSIGNEE(S): Degussa A.-G., Germany
 SOURCE: PCT Int. Appl., 43 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002024716	A2	20020328	WO 2001-EP10268	20010906
WO 2002024716	A3	20021205		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10140095	A1	20020328	DE 2001-10140095	20010816
AU 2002014966	A5	20020402	AU 2002-14966	20010906
EP 1319077	A2	20030618	EP 2001-983465	20010906
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				

IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 US 2002137065 A1 20020926 US 2001-955203 20010919
 PRIORITY APPLN. INFO.: DE 2000-10046235 A 20000919
 DE 2001-10140095 A 20010816
 WO 2001-EP10268 W 20010906

L12 ANSWER 32 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:220807 HCAPLUS
 DOCUMENT NUMBER: 136:261909
 TITLE: Sequence of dep34 gene from corynebacteria and use thereof in synthesis of L-lysine
 INVENTOR(S): Farwick, Mike; Huthmacher, Klaus; Pfefferle, Walter; Hermann, Thomas; Bathe, Brigitte
 PATENT ASSIGNEE(S): Degussa A.-G., Germany
 SOURCE: PCT Int. Appl., 42 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002022843	A2	20020321	WO 2001-EP9313	20010811
WO 2002022843	A3	20020711		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10112429	A1	20020321	DE 2001-10112429	20010315
AU 2002019032	A5	20020326	AU 2002-19032	20010811
EP 1315815	A2	20030604	EP 2001-984655	20010811
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2002106757	A1	20020808	US 2001-946763	20010906
PRIORITY APPLN. INFO.: DE 2000-10044708 A 20000909				
DE 2001-10112429 A 20010315				
WO 2001-EP9313 W 20010811				

L12 ANSWER 33 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:220796 HCAPLUS
 DOCUMENT NUMBER: 136:261907
 TITLE: Sequences of pknB gene from corynebacteria and use thereof in production of L-lysine
 INVENTOR(S): Bathe, Brigitte; Hans, Stephan; Farwick, Mike; Hermann, Thomas
 PATENT ASSIGNEE(S): Degussa A.-G., Germany
 SOURCE: PCT Int. Appl., 46 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002022828	A1	20020321	WO 2001-EP10211	20010905
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,				

GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL,
 PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG,
 UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
 BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
 DE 10120095 A1 20020328 DE 2001-10120095 20010425
 AU 2001082132 A5 20020326 AU 2001-82132 20010905
 EP 1317547 A1 20030611 EP 2001-960723 20010905
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 US 2002042105 A1 20020411 US 2001-949970 20010912
 PRIORITY APPLN. INFO.: DE 2000-10044912 A 20000912
 DE 2001-10120095 A 20010425
 US 2001-297250P P 20010612
 WO 2001-EP10211 W 20010905
 REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 34 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:220783 HCAPLUS
 DOCUMENT NUMBER: 136:261905
 TITLE: Sequence of atr43 gene from corynebacteria and use
 thereof in synthesis of L-lysine
 INVENTOR(S): Farwick, Mike; Huthmacher, Klaus; Pfefferle, Walter
 PATENT ASSIGNEE(S): Degussa A.-G., Germany
 SOURCE: PCT Int. Appl., 41 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002022814	A2	20020321	WO 2001-EP8650	20010726
WO 2002022814	A3	20020516		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
DE 10123070	A1	20020411	DE 2001-10123070	20010511
AU 2001078509	A5	20020326	AU 2001-78509	20010726
US 2002142404	A1	20021003	US 2001-951768	20010914
PRIORITY APPLN. INFO.:			DE 2000-10045580 A	20000915
			DE 2001-10123070 A	20010511
			WO 2001-EP8650 W	20010726

L12 ANSWER 35 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:220646 HCAPLUS
 DOCUMENT NUMBER: 136:261904
 TITLE: Sequences of ccsB gene from corynebacteria and use
 thereof in production of L-lysine
 INVENTOR(S): Farwick, Mike; Huthmacher, Klaus; Pfefferle, Walter;
 Bathe, Brigitte; Hermann, Thomas
 PATENT ASSIGNEE(S): Degussa A.-G., Germany
 SOURCE: PCT Int. Appl., 34 pp.
 CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002022672	A1	20020321	WO 2001-EP9457	20010816
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10045487	A1	20020411	DE 2000-10045487	20000914
AU 2001079818	A5	20020326	AU 2001-79818	20010816
EP 1317482	A1	20030611	EP 2001-958077	20010816
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2002048795	A1	20020425	US 2001-946143	20010905
PRIORITY APPLN. INFO.: DE 2000-10045487 A 20000914 WO 2001-EP9457 W 20010816				
REFERENCE COUNT:	6	THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L12 ANSWER 36 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:220645 HCAPLUS
DOCUMENT NUMBER: 136:261903
TITLE: Sequence of pstC2 gene from corynebacteria and use thereof in synthesis of L-lysine
INVENTOR(S): Farwick, Mike; Huthmacher, Klaus; Pfefferle, Walter; Brehme, Jennifer
PATENT ASSIGNEE(S): Degussa A.-G., Germany
SOURCE: PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002022671	A1	20020321	WO 2001-EP9455	20010816
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10045486	A1	20020411	DE 2000-10045486	20000914
AU 2001089807	A5	20020326	AU 2001-89807	20010816
US 2002106751	A1	20020808	US 2001-951769	20010914
PRIORITY APPLN. INFO.: DE 2000-10045486 A 20000914 WO 2001-EP9455 W 20010816				
REFERENCE COUNT:	6	THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L12 ANSWER 37 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:220644 HCAPLUS
 DOCUMENT NUMBER: 136:261902
 TITLE: Sequences of ftsX gene from corynebacteria and use thereof in production of L-lysine
 INVENTOR(S): Farwick, Mike; Huthmacher, Klaus; Pfefferle, Walter; Brehme, Jennifer; Rieping, Mechthild
 PATENT ASSIGNEE(S): Degussa A.-G., Germany
 SOURCE: PCT Int. Appl., 46 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002022670	A1	20020321	WO 2001-EP9375	20010814
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10132176	A1	20020321	DE 2001-10132176	20010703
AU 2001087682	A5	20020326	AU 2001-87682	20010814
US 2002107377	A1	20020808	US 2001-946769	20010906
PRIORITY APPLN. INFO.:			DE 2000-10044944 A	20000912
			DE 2001-10132176 A	20010703
			WO 2001-EP9375 W	20010814
REFERENCE COUNT:	7	THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L12 ANSWER 38 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:220643 HCAPLUS
 DOCUMENT NUMBER: 136:261901
 TITLE: Sequence of sugA gene from corynebacteria and use thereof in synthesis of L-lysine
 INVENTOR(S): Farwick, Mike; Huthmacher, Klaus; Pfefferle, Walter; Hermann, Thomas; Marx, Achim
 PATENT ASSIGNEE(S): Degussa A.-G., Germany
 SOURCE: PCT Int. Appl., 42 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002022669	A1	20020321	WO 2001-EP9164	20010808
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10108839	A1	20020328	DE 2001-10108839	20010223
AU 2001093741	A5	20020326	AU 2001-93741	20010808

EP 1326889 A1 20030716 EP 2001-974139 20010808
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
US 2002127661 A1 20020912 US 2001-951753 20010914
PRIORITY APPLN. INFO.: DE 2000-10045485 A 20000914
DE 2001-10108839 A 20010223
WO 2001-EP9164 W 20010808
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 39 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:220642 HCAPLUS
DOCUMENT NUMBER: 136:261900
TITLE: Sequences of rodA gene from corynebacteria and use
thereof in production of L-lysine
INVENTOR(S): Farwick, Mike; Huthmacher, Klaus; Pfefferle, Walter;
Bathe, Brigitte
PATENT ASSIGNEE(S): Degussa A.-G., Germany
SOURCE: PCT Int. Appl., 46 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002022668	A1	20020321	WO 2001-EP9097	20010807
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10132947	A1	20020321	DE 2001-10132947	20010706
AU 2001085878	A5	20020326	AU 2001-85878	20010807
US 2002051993	A1	20020502	US 2001-950071	20010912
PRIORITY APPLN. INFO.: DE 2000-10044943 A 20000912				
DE 2001-10132947 A 20010706				
WO 2001-EP9097 W 20010807				
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT				

L12 ANSWER 40 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:220640 HCAPLUS
DOCUMENT NUMBER: 136:261899
TITLE: Sequence of gorA gene from corynebacteria and use
thereof in synthesis of L-lysine
INVENTOR(S): Farwick, Mike; Huthmacher, Klaus; Pfefferle, Walter;
Marx, Achim
PATENT ASSIGNEE(S): Degussa A.-G., Germany
SOURCE: PCT Int. Appl., 38 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002022666	A2	20020321	WO 2001-EP9314	20010811

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,
RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ,
VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
DE 10109023 A1 20020328 DE 2001-10109023 20010224
AU 2001095456 A5 20020326 AU 2001-95456 20010811
EP 1317546 A2 20030611 EP 2001-976069 20010811
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
US 2002106758 A1 20020808 US 2001-946764 20010906
PRIORITY APPLN. INFO.: DE 2000-10044946 A 20000912
DE 2001-10109023 A 20010224
WO 2001-EP9314 W 20010811

L12 ANSWER 41 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:220608 HCAPLUS
DOCUMENT NUMBER: 136:261898
TITLE: Sequences of atr61 gene from corynebacteria and use
thereof in production of L-lysine
INVENTOR(S): Farwick, Mike; Huthmacher, Klaus; Pfefferle, Walter
PATENT ASSIGNEE(S): Degussa A.-G., Germany
SOURCE: PCT Int. Appl., 38 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002022633	A2	20020321	WO 2001-EP10522	20010912
WO 2002022633	A3	20020530		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
DE 10045579	A1	20020411	DE 2000-10045579	20000915
AU 2001093808	A5	20020326	AU 2001-93808	20010912
US 2002115159	A1	20020822	US 2001-953259	20010917
PRIORITY APPLN. INFO.:			DE 2000-10045579 A	20000915
			WO 2001-EP10522 W	20010912

L12 ANSWER 42 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:185334 HCAPLUS
DOCUMENT NUMBER: 136:246479
TITLE: Sequence of luxS gene from corynebacteria and use
thereof in synthesis of L-lysine
INVENTOR(S): Bathe, Brigitte; Kreutzer, Caroline; Marx, Achim;
Pfefferle, Walter
PATENT ASSIGNEE(S): Degussa A.-G., Germany
SOURCE: PCT Int. Appl., 40 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002020799	A2	20020314	WO 2001-EP9095	20010807
WO 2002020799	A3	20020530		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10112105	A1	20020321	DE 2001-10112105	20010314
US 2002182689	A1	20021205	US 2001-824551	20010801
AU 2001087664	A5	20020322	AU 2001-87664	20010807
EP 1315818	A2	20030604	EP 2001-967238	20010807
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				

PRIORITY APPLN. INFO.:
DE 2000-10044755 A 20000909
DE 2001-10112105 A 20010314
WO 2001-EP9095 W 20010807

L12 ANSWER 43 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:185331 HCAPLUS
DOCUMENT NUMBER: 136:246478
TITLE: Sequence of chrA gene from corynebacteria and use thereof in synthesis of L-lysine
INVENTOR(S): Bathe, Brigitte; Schischka, Natalie; Marx, Achim; Pfefferle, Walter
PATENT ASSIGNEE(S): Degussa A.-G., Germany
SOURCE: PCT Int. Appl., 40 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002020793	A1	20020314	WO 2001-EP9098	20010807
WO 2002020793	C1	20020613		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10112098	A1	20020328	DE 2001-10112098	20010314
US 2002155554	A1	20021024	US 2001-824524	20010404
AU 2001093730	A5	20020322	AU 2001-93730	20010807

PRIORITY APPLN. INFO.:
DE 2000-10044756 A 20000909
DE 2001-10112098 A 20010314
WO 2001-EP9098 W 20010807
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 44 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:185330 HCAPLUS
 DOCUMENT NUMBER: 136:246477
 TITLE: Sequence of dep33 gene from corynebacteria and use thereof in synthesis of L-lysine
 INVENTOR(S): Farwick, Mike; Huthmacher, Klaus; Pfefferle, Walter; Hermann, Thomas; Bathe, Brigitte
 PATENT ASSIGNEE(S): Degussa A.-G., Germany
 SOURCE: PCT Int. Appl., 43 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002020792	A1	20020314	WO 2001-EP9038	20010804
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10112430	A1	20020321	DE 2001-10112430	20010315
AU 2001093723	A5	20020322	AU 2001-93723	20010804
US 2002055115	A1	20020509	US 2001-948777	20010910
PRIORITY APPLN. INFO.:			DE 2000-10044707 A	20000909
			DE 2001-10112430 A	20010315
			WO 2001-EP9038 W	20010804
REFERENCE COUNT:	2	THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L12 ANSWER 45 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:185322 HCAPLUS
 DOCUMENT NUMBER: 136:246476
 TITLE: Sequence of hisC2 gene from corynebacteria and use thereof in synthesis of L-lysine
 INVENTOR(S): Farwick, Mike; Huthmacher, Klaus; Bathe, Brigitte; Pfefferle, Walter
 PATENT ASSIGNEE(S): Degussa A.-G., Germany
 SOURCE: PCT Int. Appl., 36 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002020771	A2	20020314	WO 2001-EP9037	20010804
WO 2002020771	A3	20020516		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10108838	A1	20020404	DE 2001-10108838	20010223

AU 2001079804	A5	20020322	AU 2001-79804	20010804
US 2002106672	A1	20020808	US 2001-948649	20010910
PRIORITY APPLN. INFO.:			DE 2000-10044709 A	20000909
			DE 2001-10108838 A	20010223
			WO 2001-EP9037 W	20010804

L12 ANSWER 46 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:185169 HCAPLUS

DOCUMENT NUMBER: 136:246475

TITLE: Sequence of clpC gene from corynebacteria and use thereof in synthesis of L-lysine

INVENTOR(S): Farwick, Mike; Huthmacher, Klaus; Bathe, Brigitte; Rieping, Mechthild; Pfefferle, Walter

PATENT ASSIGNEE(S): Degussa A.-G., Germany

SOURCE: PCT Int. Appl., 49 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002020574	A1	20020314	WO 2001-EP9970	20010830
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10136987	A1	20020321	DE 2001-10136987	20010728
AU 2001085916	A5	20020322	AU 2001-85916	20010830
EP 1315744	A1	20030604	EP 2001-965231	20010830
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2002102669	A1	20020801	US 2001-949036	20010910
PRIORITY APPLN. INFO.:			DE 2000-10044710 A	20000909
			DE 2001-10136987 A	20010728
			WO 2001-EP9970 W	20010830
REFERENCE COUNT:	5	THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L12 ANSWER 47 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:185168 HCAPLUS

DOCUMENT NUMBER: 136:246474

TITLE: Sequences of gpmB gene from corynebacteria and use thereof in production of L-lysine

INVENTOR(S): Bathe, Brigitte; Schroeder, Indra; Pfefferle, Walter

PATENT ASSIGNEE(S): Degussa A.-G., Germany

SOURCE: PCT Int. Appl., 41 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002020573	A2	20020314	WO 2001-EP9453	20010816
WO 2002020573	A3	20020516		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				

CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
 GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,
 RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ,
 VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
 BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
 DE 10133668 A1 20020411 DE 2001-10133668 20010711
 AU 2001095470 A5 20020322 AU 2001-95470 20010816
 EP 1315825 A2 20030604 EP 2001-976088 20010816
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 US 2002052486 A1 20020502 US 2001-947442 20010907
 PRIORITY APPLN. INFO.: DE 2000-10044772 A 20000909
 DE 2001-10133668 A 20010711
 WO 2001-EP9453 W 20010816

L12 ANSWER 48 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:185167 HCAPLUS

DOCUMENT NUMBER: 136:246473

TITLE: Sequence of chrS gene from corynebacteria and use thereof in synthesis of L-lysine

INVENTOR(S): Bathe, Brigitte; Schischka, Natalie; Marx, Achim; Pfefferle, Walter

PATENT ASSIGNEE(S): Degussa A.-G., Germany

SOURCE: PCT Int. Appl., 39 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002020572	A2	20020314	WO 2001-EP9096	20010807
WO 2002020572	A3	20020808		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
DE 10109022	A1	20020321	DE 2001-10109022	20010224
AU 2002013849	A5	20020322	AU 2002-13849	20010807
EP 1315819	A2	20030604	EP 2001-982203	20010807
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
US 2002055114	A1	20020509	US 2001-948774	20010910
PRIORITY APPLN. INFO.:			DE 2000-10044753 A	20000909
			DE 2001-10109022 A	20010224
			WO 2001-EP9096 W	20010807

L12 ANSWER 49 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:185138 HCAPLUS

DOCUMENT NUMBER: 136:246472

TITLE: Sequences of gap2 gene from corynebacteria and use thereof in production of L-lysine

INVENTOR(S): Bathe, Brigitte; Hans, Stephan; Pfefferle, Walter

PATENT ASSIGNEE(S): Degussa A.-G., Germany

SOURCE: PCT Int. Appl., 42 pp.

CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002020542	A2	20020314	WO 2001-EP9785	20010824
WO 2002020542	A3	20020530		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
DE 10136985	A1	20020321	DE 2001-10136985	20010728
AU 2001091796	A5	20020322	AU 2001-91796	20010824
EP 1315745	A2	20030604	EP 2001-971961	20010824
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
US 2002058277	A1	20020516	US 2001-948619	20010910
PRIORITY APPLN. INFO.:			DE 2000-10044754 A	20000909
			DE 2001-10136985 A	20010728
			WO 2001-EP9785 W	20010824

L12 ANSWER 50 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:172101 HCAPLUS
DOCUMENT NUMBER: 136:215517
TITLE: Sequence of sigM gene from corynebacteria and use thereof in synthesis of L-lysine
INVENTOR(S): Bathe, Brigitte; Bastuck, Christine; Farwick, Mike; Hermann, Thomas; Pfefferle, Walter
PATENT ASSIGNEE(S): Degussa AG, Germany
SOURCE: PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002018599	A1	20020307	WO 2001-EP9972	20010830
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
DE 10136984	A1	20020418	DE 2001-10136984	20010728
AU 2001089850	A5	20020313	AU 2001-89850	20010830
US 2002106755	A1	20020808	US 2001-942935	20010831
PRIORITY APPLN. INFO.:			DE 2000-10043337 A	20000902
			DE 2001-10136984 A	20010728
			WO 2001-EP9972 W	20010830
REFERENCE COUNT:	3	THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L12 ANSWER 51 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:172100 HCAPLUS

DOCUMENT NUMBER: 136:231337

TITLE: Sequence of sigH gene from corynebacteria and use thereof in synthesis of L-lysine

INVENTOR(S): Bathe, Brigitte; Schroeder, Indra; Rieping, Mechthild; Marx, Achim; Farwick, Mike; Pfefferle, Walter; Hermann, Thomas

PATENT ASSIGNEE(S): Degussa A.-G., Germany

SOURCE: PCT Int. Appl., 45 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002018598	A1	20020307	WO 2001-EP9250	20010810
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
DE 10133427	A1	20020314	DE 2001-10133427	20010710
AU 2001082084	A5	20020313	AU 2001-82084	20010810
US 2002106756	A1	20020808	US 2001-942936	20010831
PRIORITY APPLN. INFO.:			DE 2000-10043333 A	20000902
			DE 2001-10133427 A	20010710
			WO 2001-EP9250 W	20010810
REFERENCE COUNT:	8		THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT	

L12 ANSWER 52 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:172099 HCAPLUS

DOCUMENT NUMBER: 136:231336

TITLE: Sequence of cstA gene from corynebacteria and use thereof in synthesis of L-lysine

INVENTOR(S): Moeckel, Bettina; Marx, Achim; Pfefferle, Walter; Farwick, Mike; Hermann, Thomas

PATENT ASSIGNEE(S): Degussa AG, Germany

SOURCE: PCT Int. Appl., 53 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002018597	A1	20020307	WO 2001-EP8601	20010725
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,			

BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
 DE 10042051 A1 20020307 DE 2000-10042051 20000826
 AU 2001082022 A5 20020313 AU 2001-82022 20010725
 EP 1311683 A1 20030521 EP 2001-960554 20010725
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 US 2002137912 A1 20020926 US 2001-935799 20010824
 PRIORITY APPLN. INFO.: DE 2000-10042051 A 20000826
 WO 2001-EP8601 W 20010725
 REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 53 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:172098 HCAPLUS
 DOCUMENT NUMBER: 136:215516
 TITLE: Citb gene from corynebacteria and use thereof in
 synthesis of L-lysine or valine
 INVENTOR(S): Moeckel, Bettina; Hermann, Thomas; Farwick, Mike;
 Pfefferle, Walter; Marx, Achim
 PATENT ASSIGNEE(S): Degussa AG, Germany
 SOURCE: PCT Int. Appl., 44 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002018596	A1	20020307	WO 2001-EP8387	20010720
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10108841	A1	20020314	DE 2001-10108841	20010223
AU 2001079769	A5	20020313	AU 2001-79769	20010720
EP 1313856	A1	20030528	EP 2001-957993	20010720
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2002086372	A1	20020704	US 2001-942937	20010831
PRIORITY APPLN. INFO.:				
			DE 2000-10042741 A	20000831
			DE 2001-10108841 A	20010223
			WO 2001-EP8387 W	20010720
REFERENCE COUNT:	2	THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L12 ANSWER 54 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:172091 HCAPLUS
 DOCUMENT NUMBER: 136:231335
 TITLE: Sequence of sigC gene from corynebacteria and use
 thereof in synthesis of L-lysine
 INVENTOR(S): Bathe, Brigitte; Hans, Stephan; Farwick, Mike;
 Hermann, Thomas; Pfefferle, Walter
 PATENT ASSIGNEE(S): Degussa AG, Germany
 SOURCE: PCT Int. Appl., 40 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002018589	A2	20020307	WO 2001-EP9163	20010808
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
DE 10133426	A1	20020314	DE 2001-10133426	20010710
AU 2001093740	A5	20020313	AU 2001-93740	20010808
EP 1320543	A2	20030625	EP 2001-974138	20010808
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
US 2002146782	A1	20021010	US 2001-941936	20010830
PRIORITY APPLN. INFO.:			DE 2000-10043332 A	20000902
			DE 2001-10133426 A	20010710
			WO 2001-EP9163 W	20010808

L12 ANSWER 55 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:171943 HCAPLUS
DOCUMENT NUMBER: 136:231334
TITLE: Sequence of oxyR gene from corynebacteria and use thereof in synthesis of L-lysine
INVENTOR(S): Marx, Achim; Farwick, Mike; Hermann, Thomas; Schischka, Natalie; Bathe, Brigitte
PATENT ASSIGNEE(S): Degussa AG, Germany
SOURCE: PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002018431	A1	20020307	WO 2001-EP8388	20010720
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
DE 10110053	A1	20020307	DE 2001-10110053	20010302
AU 2001089706	A5	20020313	AU 2001-89706	20010720
EP 1313758	A1	20030528	EP 2001-969448	20010720
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
US 2002064839	A1	20020530	US 2001-938641	20010827
PRIORITY APPLN. INFO.:			DE 2000-10042052 A	20000826
			DE 2001-10110053 A	20010302
			US 2001-279415P P	20010329
			WO 2001-EP8388 W	20010720

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 56 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:171941 HCAPLUS
 DOCUMENT NUMBER: 136:231332
 TITLE: Sequence of ccpA2 gene from corynebacteria and use thereof in synthesis of L-lysine
 INVENTOR(S): Moeckel, Bettina; Kreutzer, Caroline; Hermann, Thomas; Farwick, Mike; Marx, Achim; Pfefferle, Walter
 PATENT ASSIGNEE(S): Degussa AG, Germany
 SOURCE: PCT Int. Appl., 43 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002018429	A1	20020307	WO 2001-EP7386	20010628
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
DE 10123071	A1	20020307	DE 2001-10123071	20010511
AU 2001091658	A5	20020313	AU 2001-91658	20010628
EP 1313759	A1	20030528	EP 2001-971740	20010628
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2002068336	A1	20020606	US 2001-938642	20010827
US 6689586	B2	20040210		

PRIORITY APPLN. INFO.: DE 2000-10042053 A 20000826
 DE 2001-10123071 A 20010511
 WO 2001-EP7386 W 20010628

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 57 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:171940 HCAPLUS
 DOCUMENT NUMBER: 136:231331
 TITLE: Sequence of sigE gene from corynebacteria and use thereof in synthesis of L-lysine
 INVENTOR(S): Moeckel, Bettina; Hermann, Thomas; Farwick, Mike; Binder, Michael; Pfefferle, Walter
 PATENT ASSIGNEE(S): Degussa AG, Germany
 SOURCE: PCT Int. Appl., 45 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002018428	A2	20020307	WO 2001-EP8146	20010714
WO 2002018428	A3	20020606		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ,				

VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
 BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
 DE 10126422 A1 20020314 DE 2001-10126422 20010531
 AU 2001085843 A5 20020313 AU 2001-85843 20010714
 EP 1320616 A2 20030625 EP 2001-965132 20010714
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 US 2002103356 A1 20020801 US 2001-935757 20010824
 PRIORITY APPLN. INFO.: DE 2000-10043336 A 20000902
 DE 2001-10126422 A 20010531
 US 2001-295009P P 20010604
 WO 2001-EP8146 W 20010714

L12 ANSWER 58 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:171939 HCAPLUS
 DOCUMENT NUMBER: 136:231330
 TITLE: Sequence of citA gene from corynebacteria and use
 thereof in synthesis of L-lysine or valine
 INVENTOR(S): Moeckel, Bettina; Farwick, Mike; Hermann, Thomas;
 Marx, Achim; Pfefferle, Walter
 PATENT ASSIGNEE(S): Degussa AG, Germany
 SOURCE: PCT Int. Appl., 44 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002018427	A2	20020307	WO 2001-EP7766	20010706
WO 2002018427	A3	20020516		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
DE 10108463	A1	20020314	DE 2001-10108463	20010222
US 2002081672	A1	20020627	US 2001-804060	20010313
AU 2001093698	A5	20020313	AU 2001-93698	20010706
EP 1313760	A2	20030528	EP 2001-974079	20010706
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
PRIORITY APPLN. INFO.: DE 2000-10042740 A 20000831 DE 2001-10108463 A 20010222 WO 2001-EP7766 W 20010706				

L12 ANSWER 59 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:171931 HCAPLUS
 DOCUMENT NUMBER: 136:231329
 TITLE: Sequence of ccpA1 gene from corynebacteria and use
 thereof in synthesis of L-lysine
 INVENTOR(S): Moeckel, Bettina; Kreutzer, Caroline
 PATENT ASSIGNEE(S): Degussa AG, Germany
 SOURCE: PCT Int. Appl., 38 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002018419	A2	20020307	WO 2001-EP8356	20010719
WO 2002018419	A3	20021031		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
DE 10110052	A1	20020307	DE 2001-10110052	20010302
AU 2002012114	A5	20020313	AU 2002-12114	20010719
EP 1311685	A2	20030521	EP 2001-980214	20010719
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
US 2002151001	A1	20021017	US 2001-938540	20010827
PRIORITY APPLN. INFO.:			DE 2000-10042054 A	20000826
			DE 2001-10110052 A	20010302
			US 2001-279413P P	20010329
			WO 2001-EP8356 W	20010719

L12 ANSWER 60 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:123218 HCAPLUS
DOCUMENT NUMBER: 136:182548
TITLE: Sequences of **Corynebacterium glutamicum** gene lysR2 encoding transcription regulator and its use in increasing yields of L-lysine and L-valine in fermentation
INVENTOR(S): Moeckel, Bettina; Farwick, Mike; Hermann, Thomas; Kreutzer, Caroline; Pfefferle, Walter
PATENT ASSIGNEE(S): Degussa A.-G., Germany
SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002012504	A1	20020214	WO 2001-EP6808	20010615
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
DE 10110346	A1	20020221	DE 2001-10110346	20010303
AU 2001079663	A5	20020218	AU 2001-79663	20010615
EP 1307563	A1	20030507	EP 2001-957853	20010615
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
US 2002081674	A1	20020627	US 2001-826909	20010724
PRIORITY APPLN. INFO.:			DE 2000-10039047 A	20000810
			DE 2001-10110346 A	20010303

WO 2001-EP6808 W 20010615
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 61 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:123057 HCAPLUS
DOCUMENT NUMBER: 136:182547
TITLE: Sequences of **Corynebacterium**
glutamicum gene lysR1 encoding transcription
regulator and its use in increasing yields of L-lysine
in fermentation
INVENTOR(S): Moeckel, Bettina; Farwick, Mike; Hermann, Thomas;
Kreutzer, Caroline; Pfefferle, Walter
PATENT ASSIGNEE(S): Degussa A.-G., Germany
SOURCE: PCT Int. Appl., 38 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002012295	A1	20020214	WO 2001-EP8258	20010718
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
DE 10039044	A1	20020221	DE 2000-10039044	20000810
US 2003170780	A1	20030911	US 2001-903770	20010713
AU 2001089674	A5	20020218	AU 2001-89674	20010718
EP 1309619	A1	20030514	EP 2001-969409	20010718
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
PRIORITY APPLN. INFO.:			DE 2000-10039044 A	20000810
			WO 2001-EP8258 W	20010718

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 62 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:123053 HCAPLUS
DOCUMENT NUMBER: 136:182546
TITLE: Sequences of **Corynebacterium**
glutamicum gene luxR encoding transcription
regulator and its use in increasing yields of L-lysine
in fermentation
INVENTOR(S): Moeckel, Bettina; Kreutzer, Caroline; Bathe, Brigitte
PATENT ASSIGNEE(S): Degussa A.-G., Germany
SOURCE: PCT Int. Appl., 32 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002012291	A2	20020214	WO 2001-EP8256	20010718
WO 2002012291	A3	20020627		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,
RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ,
VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

DE 10039043 A1 20020221 DE 2000-10039043 20000810
US 2002086404 A1 20020704 US 2001-903771 20010713
AU 2002010420 A5 20020218 AU 2002-10420 20010718
EP 1307478 A2 20030507 EP 2001-978249 20010718

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

PRIORITY APPLN. INFO.: DE 2000-10039043 A 20000810
WO 2001-EP8256 W 20010718

L12 ANSWER 63 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:276480 HCAPLUS

DOCUMENT NUMBER: 136:308623

TITLE: Sequences of fadD15 gene from corynebacteria and use
thereof in production of L-lysine

INVENTOR(S): Nampoothiri, K. Madhavan; Mockel, Bettina; Pfefferle,
Walter; Eggeling, Lothar; Sahm, Hermann

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 17 pp., Cont.-in-part of U.S.
Ser. No. 577,848, abandoned.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002042107	A1	20020411	US 2001-855750	20010516
DE 10021831	A1	20011108	DE 2000-10021831	20000504

PRIORITY APPLN. INFO.: DE 2000-10021831 A 20000504
US 2000-577848 B2 20000525

L12 ANSWER 64 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:693203 HCAPLUS

DOCUMENT NUMBER: 137:231478

TITLE: Mutations in the rpoB gene of a lysine-producing
Corynebacterium glutamicum affecting
yields of lysine

INVENTOR(S): Moeckel, Bettina; Bathe, Brigitte; Hermann, Thomas;
Pfefferle, Walter; Binder, Michael

PATENT ASSIGNEE(S): Degussa AG, Germany

SOURCE: Eur. Pat. Appl., 49 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1239040	A2	20020911	EP 2002-2501	20020202
EP 1239040	A3	20030108		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

DE 10162387 A1 20021017 DE 2001-10162387 20011219

PRIORITY APPLN. INFO.:

DE 2001-10107229 A 20010216
DE 2001-10162387 A 20011219

L12 ANSWER 65 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:183815 HCAPLUS

DOCUMENT NUMBER: 136:246469

TITLE: Nucleotide sequence of the lldd2 gene of
Corynebacterium coding for lactate dehydrogenase for
use in increasing yields in amino acid fermentationINVENTOR(S): Farwick, Mike; Huthmacher, Klaus; Bathe, Brigitte;
Pfefferle, Walter

PATENT ASSIGNEE(S): Degussa AG, Germany

SOURCE: Eur. Pat. Appl., 18 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1186657	A1	20020313	EP 2001-117811	20010721
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
DE 10044681	A1	20020321	DE 2000-10044681	20000909
WO 2002059329	A1	20020801	WO 2001-EP797	20010125
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1354051	A1	20031022	EP 2001-919248	20010125
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2002055152	A1	20020509	US 2001-946142	20010905
PRIORITY APPLN. INFO.: DE 2000-10044681 A 20000909 WO 2001-EP797 W 20010125				

L12 ANSWER 66 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:214906 HCAPLUS

DOCUMENT NUMBER: 136:242992

TITLE: Sequences of **Corynebacterium**
glutamicum genes of cysteine biosynthesis the
development of strains for amino acid fermentationINVENTOR(S): Farwick, Mike; Huthmacher, Klaus; Pfefferle, Walter;
Schischka, Natalie; Bathe, Brigitte

PATENT ASSIGNEE(S): Degussa A.-G., Germany

SOURCE: Ger. Offen., 36 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10136986	A1	20020321	DE 2001-10136986	20010728
WO 2002029029	A2	20020411	WO 2001-EP9723	20010823
WO 2002029029	A3	20020613		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				

CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
 GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL,
 PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG,
 UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
 BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
 AU 2002010456 A5 20020415 AU 2002-10456 20010823
 EP 1320593 A2 20030625 EP 2001-978296 20010823
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 US 2002086373 A1 20020704 US 2001-962357 20010926
 PRIORITY APPLN. INFO.: DE 2000-10048603 A1 20000903
 DE 2001-10109691 A1 20010228
 US 2001-294223P P 20010531
 DE 2001-10136986 A 20010728
 WO 2001-EP9723 W 20010823

L12 ANSWER 67 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:391316 HCAPLUS
 DOCUMENT NUMBER: 136:382849
 TITLE: The mtrA and mtrB genes of Corynebacterium encoding
 two-component signal transduction pathway for use in
 engineering lysine biosynthesis
 PATENT ASSIGNEE(S): Degussa AG, Germany; Forschungszentrum Juelich GmbH
 SOURCE: Ger. Offen., 22 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10125089	A1	20020523	DE 2001-10125089	20010523
WO 2002042472	A1	20020530	WO 2001-EP12220	20011023
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2002023637	A5	20020603	AU 2002-23637	20011023
EP 1337649	A1	20030827	EP 2001-997557	20011023
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2002137073	A1	20020926	US 2001-990337	20011123
US 6703223	B2	20040309		
US 2003157551	A1	20030821	US 2003-411318	20030411
PRIORITY APPLN. INFO.: DE 2000-10057802 A1 20001122 DE 2001-10125089 A 20010523 WO 2001-EP12220 W 20011023 US 2001-990337 A3 20011123				

L12 ANSWER 68 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:791974 HCAPLUS
 DOCUMENT NUMBER: 137:309601
 TITLE: Mutations in the mgo gene of a amino acid-producing
Corynebacterium glutamicum affecting
 yields

INVENTOR(S): Farwick, Mike; Bathe, Brigitte; Hermann, Thomas; Marx, Achim; Pfefferle, Walter
 PATENT ASSIGNEE(S): Degussa AG, Germany
 SOURCE: Ger. Offen., 12 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10117816	A1	20021017	DE 2001-10117816	20010410
WO 2002086137	A2	20021031	WO 2002-EP3728	20020404
WO 2002086137	A3	20030828		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1377674	A2	20040107	EP 2002-745213	20020404
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2003044943	A1	20030306	US 2002-118325	20020409
PRIORITY APPLN. INFO.: DE 2001-10117816 A 20010410				
US 2002-352212P P 20020129				
WO 2002-EP3728 W 20020404				

L12 ANSWER 69 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:714065 HCAPLUS
 DOCUMENT NUMBER: 137:213536
 TITLE: The fda gene of Corynebacterium encoding a fructose bisphosphate aldolase for use in engineering lysine biosynthesis
 INVENTOR(S): Farwick, Mike; Bathe, Brigitte; Hermann, Thomas; Marx, Achim
 PATENT ASSIGNEE(S): Degussa AG, Germany
 SOURCE: Ger. Offen., 6 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10113011	A1	20020919	DE 2001-10113011	20010317
WO 2002074966	A2	20020926	WO 2002-EP2568	20020308
WO 2002074966	A3	20030320		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRIORITY APPLN. INFO.: DE 2001-10113011 A 20010317				

L12 ANSWER 70 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:573259 HCAPLUS
 DOCUMENT NUMBER: 137:137499
 TITLE: The otsA gene of **Corynebacterium glutamicum** encoding a trehalose-6-phosphate synthase and its use in increasing yields of lysine in fermentation
 INVENTOR(S): Hermann, Thomas; Wolf, Andreas; Morbach, Susanne; Kraemer, Reinhard
 PATENT ASSIGNEE(S): Degussa A.-G., Germany
 SOURCE: Ger. Offen., 20 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10110760	A1	20020801	DE 2001-10110760	20010307
WO 2002061093	A1	20020808	WO 2001-EP12221	20011023
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1358337	A1	20031105	EP 2001-978450	20011023
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2002192674	A1	20021219	US 2002-58945	20020130
PRIORITY APPLN. INFO.:				
			DE 2001-10103873	IA 20010130
			DE 2001-10110760	A 20010307
			WO 2001-EP12221	W 20011023

L12 ANSWER 71 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:391291 HCAPLUS
 DOCUMENT NUMBER: 136:382848
 TITLE: The cysQ gene of **Corynebacterium** encoding a transport protein for use in engineering lysine biosynthesis
 INVENTOR(S): Farwick, Mike; Huthmacher, Klaus; Bathe, Brigitte; Pfefferle, Walter
 PATENT ASSIGNEE(S): Degussa AG, Germany
 SOURCE: Ger. Offen., 12 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10057801	A1	20020523	DE 2000-10057801	20001122
WO 2002042466	A2	20020530	WO 2001-EP12294	20011024
WO 2002042466	A3	20030313		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
 BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
 AU 2002024789 A5 20020603 AU 2002-24789 20011024
 EP 1335980 A2 20030820 EP 2001-994615 20011024
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 US 2002115162 A1 20020822 US 2001-987446 20011114
 PRIORITY APPLN. INFO.: DE 2000-10057801 A 20001122
 WO 2001-EP12294 W 20011024

L12 ANSWER 72 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:122520 HCAPLUS
 DOCUMENT NUMBER: 136:166155
 TITLE: The rpi gene of **Corynebacterium glutamicum** and its use in increasing yields of lysine in fermentation
 INVENTOR(S): Schischka, Natalie; Moeckel, Bettina; Pfefferle, Walter
 PATENT ASSIGNEE(S): Degussa A.-G., Germany
 SOURCE: Ger. Offen., 10 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10037612	A1	20020214	DE 2000-10037612	20000802
PRIORITY APPLN. INFO.:			DE 2000-10037612	20000802

L12 ANSWER 73 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:122519 HCAPLUS
 DOCUMENT NUMBER: 136:166154
 TITLE: The rpe gene of **Corynebacterium glutamicum** and its use in increasing yields of lysine in fermentation
 INVENTOR(S): Bastuck, Christine; Moeckel, Bettina; Pfefferle, Walter
 PATENT ASSIGNEE(S): Degussa A.-G., Germany
 SOURCE: Ger. Offen., 10 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10037611	A1	20020214	DE 2000-10037611	20000802
PRIORITY APPLN. INFO.:			DE 2000-10037611	20000802

L12 ANSWER 74 OF 92 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
 on STN DUPLICATE 7

ACCESSION NUMBER: 2002395685 EMBASE
 TITLE: Effect of **pyruvate carboxylase** overexpression on the physiology of **Corynebacterium glutamicum**.
 AUTHOR: Koffas M.A.G.; Jung G.Y.; Aon J.C.; Stephanopoulos G.
 CORPORATE SOURCE: G. Stephanopoulos, Department of Chemical Engineering, MIT, Cambridge, MA 02139, United States. gregstep@mit.edu
 SOURCE: Applied and Environmental Microbiology, (1 Nov 2002) 68/11 (5422-5428).

Refs: 44
 ISSN: 0099-2240 CODEN: AEMIDF
 COUNTRY: United States
 DOCUMENT TYPE: Journal; Article
 FILE SEGMENT: 004 Microbiology
 LANGUAGE: English
 SUMMARY LANGUAGE: English

L12 ANSWER 75 OF 92 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN
 ACCESSION NUMBER: 2001-06681 BIOTECHDS
 TITLE: Coryneform bacteria for high level production of lysine,
 useful as feed additive, overexpresses the pyc and at least
 one other gene, e.g. dapA, dapB or lyse;
 for use as feed-additive
 AUTHOR: Kreutzer C; Moeckel B; Pfefferle W; Eggeling L; Sahm H; Patek
 M
 PATENT ASSIGNEE: Degussa; Res.Cent.Juelich
 LOCATION: Frankfurt, Germany; Juelich, Germany.
 PATENT INFO: EP 1067193 10 Jan 2001
 APPLICATION INFO: EP 2000-114502 6 Jul 2000
 PRIORITY INFO: DE 1999-1031314 7 Jul 1999
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 OTHER SOURCE: WPI: 2001-140055 [15]

L12 ANSWER 76 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2001:904501 HCAPLUS
 DOCUMENT NUMBER: 136:36482
 TITLE: The glbO gene of **Corynebacterium**
glutamicum encoding Hb-like protein and its
 use in increasing yields of lysine in fermentation
 INVENTOR(S): Moeckel, Bettina; Marx, Achim; Pfefferle, Walter
 PATENT ASSIGNEE(S): Degussa AG, Germany
 SOURCE: PCT Int. Appl., 35 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 3
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001094569	A2	20011213	WO 2001-EP4792	20010427
WO 2001094569	A3	20020321		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
US 2002081673	A1	20020627	US 2001-813932	20010322
EP 1287143	A2	20030305	EP 2001-940376	20010427
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
PRIORITY APPLN. INFO.:			US 2000-585642	A 20000602
			US 2001-813932	A 20010322
			WO 2001-EP4792	W 20010427

L12 ANSWER 77 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2001:747222 HCAPLUS
 DOCUMENT NUMBER: 135:287596

TITLE: The rplK gene of **Corynebacterium glutamicum** and its use in increasing yields of lysine in fermentation

INVENTOR(S): Wehmeier, Lutz; Tauch, Andreas; Puehler, Alfred; Kalinowski, Joern; Moeckel, Bettina

PATENT ASSIGNEE(S): Degussa A.-G., Germany

SOURCE: Eur. Pat. Appl., 21 pp.
CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1143003	A2	20011010	EP 2001-105928	20010309
EP 1143003	A3	20011114		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
DE 10017057	A1	20011011	DE 2000-10017057	20000405
CA 2340300	AA	20011005	CA 2001-2340300	20010402
ZA 2001002776	A	20011005	ZA 2001-2776	20010404
CN 1316516	A	20011010	CN 2001-112451	20010404
BR 2001001319	A	20011106	BR 2001-1319	20010405
JP 2002051789	A2	20020219	JP 2001-107048	20010405
US 2003148476	A1	20030807	US 2002-302931	20021125
PRIORITY APPLN. INFO.:			DE 2000-10017057 A	20000405
			US 2000-568023 A	20000510

L12 ANSWER 78 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:432943 HCAPLUS

DOCUMENT NUMBER: 135:45274

TITLE: The zwa2 gene of **Corynebacterium glutamicum** and its use in increasing yields of lysine in fermentation

INVENTOR(S): Mockel, Bettina; Weissenborn, Anke; Pfefferle, Walter; Marx, Achim; Puhler, Alfred; Kalinowski, Jorn; Bathe, Brigitte; Dusch, Nicole

PATENT ASSIGNEE(S): Degussa A.-G., Germany

SOURCE: Eur. Pat. Appl., 20 pp.
CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1106693	A1	20010613	EP 2000-125832	20001125
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
DE 19959327	A1	20010613	DE 1999-19959327	19991209
US 2002106748	A1	20020808	US 2000-733386	20001204
JP 2001197892	A2	20010724	JP 2000-371850	20001206
ZA 2000007270	A	20010607	ZA 2000-7270	20001207
CN 1312373	A	20010912	CN 2000-136074	20001208
BR 2000005811	A	20020723	BR 2000-5811	20001208
PRIORITY APPLN. INFO.:			DE 1999-19959327 A	19991209
REFERENCE COUNT:	2	THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L12 ANSWER 79 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:416528 HCAPLUS

DOCUMENT NUMBER: 135:18610

TITLE: The cspl gene of **Corynebacterium glutamicum** and its use in increasing yields of lysine in fermentation

INVENTOR(S): Mockel, Bettina; Pfefferle, Walter; Brand, Sven; Puhler, Alfred; Kalinowski, Jorn; Bathe, Brigitte

PATENT ASSIGNEE(S): Degussa A.-G., Germany

SOURCE: Eur. Pat. Appl., 10 pp.
CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1104810	A1	20010606	EP 2000-122575	20001017
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
CN 1295131	A	20010516	CN 2000-130374	20001102
JP 2001178481	A2	20010703	JP 2000-339316	20001107
ZA 2000006442	A	20010528	ZA 2000-6442	20001108
BR 2000005307	A	20010612	BR 2000-5307	20001108
US 2003087400	A1	20030508	US 2002-178219	20020625
PRIORITY APPLN. INFO.:		DE 1999-19953809 A 19991109		
		US 2000-707913 A3 20001108		
REFERENCE COUNT:	3	THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L12 ANSWER 80 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:396523 HCAPLUS

DOCUMENT NUMBER: 135:2880

TITLE: The pfk gene of **Corynebacterium glutamicum** and its use in increasing yields of lysine in fermentation

INVENTOR(S): Mockel, Bettina; Pfefferle, Walter

PATENT ASSIGNEE(S): Degussa A.-G., Germany

SOURCE: Eur. Pat. Appl., 19 pp.
CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1103613	A1	20010530	EP 2000-125528	20001122
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
DE 19956131	A1	20010531	DE 1999-19956131	19991123
JP 2001186895	A2	20010710	JP 2000-354308	20001121
ZA 2000006856	A	20010712	ZA 2000-6856	20001122
CN 1297055	A	20010530	CN 2000-132502	20001123
BR 2000005543	A	20010807	BR 2000-5543	20001123
PRIORITY APPLN. INFO.:		DE 1999-19956131 A 19991123		
REFERENCE COUNT:	4	THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L12 ANSWER 81 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:396522 HCAPLUS

DOCUMENT NUMBER: 135:2879

TITLE: The sucC and sucD genes of **Corynebacterium glutamicum** and their use in increasing yields of lysine in fermentation

INVENTOR(S): Mockel, Bettina; Pfefferle, Walter; Marx, Achim

PATENT ASSIGNEE(S): Degussa A.-G., Germany
 SOURCE: Eur. Pat. Appl., 26 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1103611	A1	20010530	EP 2000-125527	20001122
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
DE 19956686	A1	20010531	DE 1999-19956686	19991125
ZA 2000006884	A	20010525	ZA 2000-6884	20001123
CN 1298019	A	20010606	CN 2000-132540	20001124
JP 2001190290	A2	20010717	JP 2000-358256	20001124
BR 2000005608	A	20010717	BR 2000-5608	20001127
PRIORITY APPLN. INFO.:			DE 1999-19956686	A 19991125
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT				

L12 ANSWER 82 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2001:431773 HCAPLUS
 DOCUMENT NUMBER: 135:45273
 TITLE: The zwal gene of **Corynebacterium glutamicum** and its use in increasing yields of lysine in fermentation
 INVENTOR(S): Moeckel, Bettina; Pfefferle, Walter; Marx, Achim; Kalinowski, Joern; Bathe, Brigitte; Puehler, Alfred
 PATENT ASSIGNEE(S): Degussa-Huels A.-G., Germany
 SOURCE: Ger. Offen., 14 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19959328	A1	20010613	DE 1999-19959328	19991209
EP 1111062	A1	20010627	EP 2000-124042	20001104
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2001197893	A2	20010724	JP 2000-371852	20001206
ZA 2000007269	A	20010607	ZA 2000-7269	20001207
CN 1304998	A	20010725	CN 2000-134034	20001207
BR 2000005804	A	20011120	BR 2000-5804	20001208
US 2002127663	A1	20020912	US 2000-731909	20001208
US 6632644	B2	20031014		
PRIORITY APPLN. INFO.:			DE 1999-19959328	A 19991209

L12 ANSWER 83 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2001:393183 HCAPLUS
 DOCUMENT NUMBER: 135:16690
 TITLE: The pfkA gene of **Corynebacterium glutamicum** and its use in increasing yields of lysine in fermentation
 INVENTOR(S): Moeckel, Bettina; Pfefferle, Walter
 PATENT ASSIGNEE(S): Degussa-Huels A.-G., Germany
 SOURCE: Ger. Offen., 12 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10011922	A1	20010531	DE 2000-10011922	20000311
EP 1106622	A2	20010613	EP 2000-122746	20001019
EP 1106622	A3	20040102		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
CN 1297054	A	20010530	CN 2000-132480	20001121
JP 2001186896	A2	20010710	JP 2000-354681	20001121
ZA 2000006849	A	20010605	ZA 2000-6849	20001122
BR 2000005531	A	20010807	BR 2000-5531	20001123
PRIORITY APPLN. INFO.:			DE 1999-19956133	A1 19991123
			DE 2000-10011922	A 20000311

L12 ANSWER 84 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:523505 HCAPLUS

DOCUMENT NUMBER: 135:121253

TITLE: The ptsH gene of **Corynebacterium glutamicum** and its use in increasing yields of lysine in fermentation

INVENTOR(S): Farwick, Mike; Moeckel, Bettina; Pfefferle, Walter

PATENT ASSIGNEE(S): Degussa A.-G., Germany

SOURCE: Ger. Offen., 10 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10001101	A1	20010719	DE 2000-10001101	20000113
AU 2000072548	A5	20010726	AU 2000-72548	20001228
US 2002094554	A1	20020718	US 2001-755187	20010108
US 2004005675	A9	20040108		
ZA 2001000332	A	20010726	ZA 2001-332	20010111
EP 1118666	A1	20010725	EP 2001-100695	20010112
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2001224390	A2	20010821	JP 2001-5671	20010112
CN 1319667	A	20011031	CN 2001-100614	20010112
BR 2001000063	A	20020305	BR 2001-63	20010112
US 2002090700	A1	20020711	US 2001-819930	20010329
US 2003224499	A9	20031204		
PRIORITY APPLN. INFO.:			DE 2000-10001101	A 20000113
			US 2000-503189	B2 20000214
			US 2001-755187	A2 20010108

L12 ANSWER 85 OF 92 MEDLINE on STN

DUPLICATE 8

ACCESSION NUMBER: 2001483537 MEDLINE

DOCUMENT NUMBER: PubMed ID: 11321586

TITLE: **Pyruvate carboxylase** is a major bottleneck for glutamate and lysine production by **Corynebacterium glutamicum**.

AUTHOR: Peters-Wendisch P G; Schiel B; Wendisch V F; Katsoulidis E; Mockel B; Sahm H; Eikmanns B J

CORPORATE SOURCE: Dept Microbiology and Biotechnology, University of Ulm, Germany.

SOURCE: Journal of molecular microbiology and biotechnology, (2001 Apr) 3 (2) 295-300.

Journal code: 100892561. ISSN: 1464-1801.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-Y09548
ENTRY MONTH: 200108
ENTRY DATE: Entered STN: 20010903
Last Updated on STN: 20010903
Entered Medline: 20010830

L12 ANSWER 86 OF 92 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:457217 HCAPLUS

DOCUMENT NUMBER: 133:86093

TITLE: **Pyruvate carboxylase from
Corynebacterium glutamicum,
recombinant expression and
lysine production**

INVENTOR(S): Sinskey, Anthony J.; Lessard, Philip A.; Willis, Laura B.

PATENT ASSIGNEE(S): USA

SOURCE: PCT Int. Appl., 51 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000039305	A1	20000706	WO 1998-US27301	19981223
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2356446	AA	20000706	CA 1998-2356446	19981223
BR 9816106	A	20010911	BR 1998-16106	19981223
EP 1147198	A1	20011024	EP 1998-966046	19981223
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRIORITY APPLN. INFO.: WO 1998-US27301 A 19981223

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 87 OF 92 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN

ACCESSION NUMBER: 2000:525904 SCISEARCH

THE GENUINE ARTICLE: 332DE

TITLE: **Cloning of the malic enzyme gene from
Corynebacterium glutamicum and role of
the enzyme in lactate metabolism**

AUTHOR: Gourdon P; Baucher M F; Lindley N D (Reprint); Guyonvarch A

CORPORATE SOURCE: CNRS, UMR 5504, INSA, CTR BIOINGN GILBERT DURAND, LAB BIOTECHNOL BIOPROCEDES, 135 AVE RANGUEIL, F-31077 TOULOUSE 4, FRANCE (Reprint); CNRS, UMR 5504, INSA, CTR BIOINGN GILBERT DURAND, LAB BIOTECHNOL BIOPROCEDES, F-31077 TOULOUSE 4, FRANCE; INST NATL SCI APPL, CTR BIOINGN GILBERT DURAND, UMR 792, F-31077 TOULOUSE, FRANCE; UNIV PARIS 11, CTR UNIV ORSAY, CNRS, UMR 8621, INST GENET &

COUNTRY OF AUTHOR: MICROBIOL, F-91405 ORSAY, FRANCE
SOURCE: FRANCE
APPLIED AND ENVIRONMENTAL MICROBIOLOGY, (JUL 2000) Vol.
66, No. 7, pp. 2981-2987.
Publisher: AMER SOC MICROBIOLOGY, 1752 N ST NW,
WASHINGTON, DC 20036-2904.
ISSN: 0099-2240.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE; AGRI
LANGUAGE: English
REFERENCE COUNT: 52
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

L12 ANSWER 88 OF 92 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
ACCESSION NUMBER: 1998:321316 SCISEARCH
THE GENUINE ARTICLE: ZJ169
TITLE: **Pyruvate carboxylase** from
Corynebacterium glutamicum:
characterization, **expression** and inactivation of
the pyc gene
AUTHOR: PetersWendisch P G (Reprint); Kreutzer C; Kalinowski J;
Patek M; Sahm H; Eikmanns B J
CORPORATE SOURCE: UNIV CALIF BERKELEY, DEPT PLANT & MICROBIAL BIOL,
BERKELEY, CA 94705 (Reprint); FORSCHUNGSZENTRUM JULICH,
INST BIOTECHNOL, D-52425 JULICH, GERMANY; UNIV BIELEFELD,
LEHRSTUHL GENET, D-33501 BIELEFELD, GERMANY; ACAD SCI
CZECH REPUBL, INST MICROBIOL, CZ-14220 PRAGUE, CZECH
REPUBLIC
COUNTRY OF AUTHOR: USA; GERMANY; CZECH REPUBLIC
SOURCE: MICROBIOLOGY-UK, (APR 1998) Vol. 144, Part 4, pp. 915-927.
Publisher: SOC GENERAL MICROBIOLOGY, MARLBOROUGH HOUSE,
BASINGSTOKE RD, SPENCERS WOODS, READING, BERKS, ENGLAND
RG7 1AE.
ISSN: 1350-0872.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 67
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

L12 ANSWER 89 OF 92 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
ACCESSION NUMBER: 1998:798850 SCISEARCH
THE GENUINE ARTICLE: 127ZW
TITLE: Sequence of the **Corynebacterium**
glutamicum **pyruvate carboxylase**
gene
AUTHOR: Koffas M A G; Ramamoorthi R; Pine W A; Sinskey A J;
Stephanopoulos G (Reprint)
CORPORATE SOURCE: MIT, DEPT CHEM ENGN, CAMBRIDGE, MA 02139 (Reprint); MIT,
DEPT CHEM ENGN, CAMBRIDGE, MA 02139
COUNTRY OF AUTHOR: USA
SOURCE: APPLIED MICROBIOLOGY AND BIOTECHNOLOGY, (SEP 1998) Vol.
50, No. 3, pp. 346-352.
Publisher: SPRINGER VERLAG, 175 FIFTH AVE, NEW YORK, NY
10010.
ISSN: 0175-7598.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE; AGRI
LANGUAGE: English
REFERENCE COUNT: 33
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

L12 ANSWER 90 OF 92 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN DUPLICATE 9

ACCESSION NUMBER: 97147233 EMBASE
DOCUMENT NUMBER: 1997147233
TITLE: **Pyruvate carboxylase** as an anaplerotic enzyme in **Corynebacterium glutamicum**.
AUTHOR: Peters-Wendisch P.G.; Wendisch V.F.; Paul S.; Eikmanns B.J.; Sahm H.
CORPORATE SOURCE: B.J. Eikmanns, Institut für Biotechnologie, Forschungszentrum Jülich, D-52425 Jülich, Germany. b.eikmanns@kfa-juelich.de
SOURCE: Microbiology, (1997) 143/4 (1095-1103).
Refs: 46
ISSN: 1350-0872 CODEN: MROBEO
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 004 Microbiology
029 Clinical Biochemistry
LANGUAGE: English
SUMMARY LANGUAGE: English

L12 ANSWER 91 OF 92 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN

ACCESSION NUMBER: 96:540057 SCISEARCH
THE GENUINE ARTICLE: UX143
TITLE: C-3-CARBOXYLATION AS AN ANAPLEROTIC REACTION IN PHOSPHOENOLPYRUVATE CARBOXYLASE-DEFICIENT **CORYNEBACTERIUM-GLUTAMICUM**
AUTHOR: PETERSWENDISCH P G; WENDISCH V F; DEGRAAF A A; EIKMANNS B J (Reprint); SAHM H
CORPORATE SOURCE: KFA JULICH GMBH, FORSCHUNGSZENTRUM, INST BIOTECHNOL 1, D-52425 JULICH, GERMANY (Reprint); KFA JULICH GMBH, FORSCHUNGSZENTRUM, INST BIOTECHNOL 1, D-52425 JULICH, GERMANY
COUNTRY OF AUTHOR: GERMANY
SOURCE: ARCHIVES OF MICROBIOLOGY, (JUN 1996) Vol. 165, No. 6, pp. 387-396.
ISSN: 0302-8933.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: ENGLISH
REFERENCE COUNT: 46

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

L12 ANSWER 92 OF 92 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN

ACCESSION NUMBER: 94:177461 SCISEARCH
THE GENUINE ARTICLE: MZ715
TITLE: EFFECTS OF PHOSPHOENOL **PYRUVATE-CARBOXYLASE** DEFICIENCY ON METABOLISM AND **LYSINE PRODUCTION IN CORYNEBACTERIUM-GLUTAMICUM**
AUTHOR: GUBLER M (Reprint); PARK S M; JETTEN M; STEPHANOPOULOS G; SINSKEY A J
CORPORATE SOURCE: HOFFMANN LA ROCHE AG, CH-4002 BASEL, SWITZERLAND (Reprint); MIT, DEPT BIOL, CAMBRIDGE, MA, 02139; MIT, DEPT CHEM ENGN, CAMBRIDGE, MA, 02139
COUNTRY OF AUTHOR: SWITZERLAND; USA
SOURCE: APPLIED MICROBIOLOGY AND BIOTECHNOLOGY, (FEB 1994) Vol. 40, No. 6, pp. 857-863.
ISSN: 0175-7598.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE; AGRI
LANGUAGE: ENGLISH
REFERENCE COUNT: 33

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

=> e sinskey a j/au

E1	1	SINSKE S A/AU
E2	18	SINSKEY A/AU
E3	905 -->	SINSKEY A J/AU
E4	1	SINSKEY A J */AU
E5	2	SINSKEY A L/AU
E6	4	SINSKEY AJ/AU
E7	10	SINSKEY ANTHONY/AU
E8	243	SINSKEY ANTHONY J/AU
E9	2	SINSKEY ANTHONY JOHN/AU
E10	2	SINSKEY ANTHONY S/AU
E11	1	SINSKEY ANTONY J/AU
E12	1	SINSKEY G N STEPHANOPOULOS AND A J/AU

=> s e3-e8

L16 1165 ("SINSKEY A J"/AU OR "SINSKEY A J */AU OR "SINSKEY A L"/AU OR "SINSKEY AJ"/AU OR "SINSKEY ANTHONY"/AU OR "SINSKEY ANTHONY J"/AU)

=> e lessard p a/au

E1	239	LESSARD P/AU
E2	1	LESSARD P */AU
E3	85 -->	LESSARD P A/AU
E4	1	LESSARD P B/AU
E5	4	LESSARD P C/AU
E6	11	LESSARD P D/AU
E7	4	LESSARD P N/AU
E8	1	LESSARD P R/AU
E9	4	LESSARD PA/AU
E10	27	LESSARD PAUL/AU
E11	2	LESSARD PAUL C/AU
E12	1	LESSARD PAUL CHRISTIAN/AU

=> s e3

L17 85 "LESSARD P A"/AU

=> e willis l b/au

E1	39	WILLIS L A/AU
E2	2	WILLIS L A M/AU
E3	35 -->	WILLIS L B/AU
E4	9	WILLIS L C/AU
E5	18	WILLIS L D/AU
E6	1	WILLIS L D JR/AU
E7	8	WILLIS L E/AU
E8	1	WILLIS L F/AU
E9	95	WILLIS L G/AU
E10	1	WILLIS L H/AU
E11	1	WILLIS L I/AU
E12	21	WILLIS L J/AU

=> s e3

L18 35 "WILLIS L B"/AU

=> s l16 or l17 or l18

L19 1219 L16 OR L17 OR L18

=> d his

(FILE 'HOME' ENTERED AT 09:42:56 ON 29 MAR 2004)

FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS, LIFESCI' ENTERED AT 09:43:31 ON 29 MAR 2004

L1 8583 S PYRUVATE (A) CARBOXYLASE?

L2 7190 S GLUTAMICUM

L3 415 S L1 AND L2
 L4 6447994 S CLON? OR EXPRESS? OR RECOMBINANT
 L5 321 S L3 AND L4
 L6 7054 S CORYNEBACTERIUM(A)L2
 L7 414 S L1 AND L6
 L8 321 S L4 AND L7
 L9 254853 S LYSINE
 L10 1966 S L9(A) (PRODUCT? OR MAK? OR MANUFACTUR?)
 L11 108 S L8 AND L10
 L12 92 DUP REM L11 (16 DUPLICATES REMOVED)
 L13 79 S L8 AND MUTANT?
 L14 15 S L10 AND L13
 L15 7 DUP REM L14 (8 DUPLICATES REMOVED)
 E SINSKEY A J/AU
 L16 1165 S E3-E8
 E LESSARD P A/AU
 L17 85 S E3
 E WILLIS L B/AU
 L18 35 S E3
 L19 1219 S L16 OR L17 OR L18

=> s l7 and l19

L20 26 L7 AND L19

=> dup rem l20

PROCESSING COMPLETED FOR L20

L21 8 DUP REM L20 (18 DUPLICATES REMOVED)

=> d 1-8 ibib ab

L21 ANSWER 1 OF 8 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN

ACCESSION NUMBER: 2003-22751 BIOTECHDS

TITLE: New **pyruvate carboxylase** from
Corynebacterium glutamicum, useful as an
 anaplerotic enzyme replenishing oxaloacetate consumed for
 biosynthesis during growth, or for lysine or glutamic acid
 production in industrial fermentations;
 recombinant enzyme production via plasmid expression in
 host cell for use in amino acid production

AUTHOR: **SINSKEY A J; LESSARD P A; WILLIS L**
B

PATENT ASSIGNEE: ARCHER-DANIELS MIDLAND CO

PATENT INFO: US 2003027305 6 Feb 2003

APPLICATION INFO: US 2002-45072 15 Jan 2002

PRIORITY INFO: US 2002-45072 15 Jan 2002; US 1998-220081 23 Dec 1998

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: WPI: 2003-479542 [58]

AB DERWENT ABSTRACT:

NOVELTY - A new isolated **pyruvate carboxylase**
 polypeptide has an amino acid sequence at least 95% identical to a
 sequence comprising 1140 amino acids (P1) from **Corynebacterium**
glutamicum, or the complete amino acid sequence encoded by the
 cosmid clone deposited with the American Type Culture Collection.

DETAILED DESCRIPTION - A new isolated **pyruvate**
carboxylase polypeptide has an amino acid sequence at least 95%
 identical to a sequence comprising: (a) the sequence of the
pyruvate carboxylase polypeptide having the complete
 amino acid sequence from **Corynebacterium glutamicum**
 with 1140 amino acids (P1) fully defined in the specification; or (b) the
 sequence of the **pyruvate carboxylase** polypeptide
 having the complete amino acid sequence encoded by the cosmid clone
 deposited with the American Type Culture Collection. INDEPENDENT CLAIMS
 are also included for the following: (1) an isolated nucleic acid

molecule comprising a polynucleotide with a nucleotide sequence at least 95% identical to a nucleotide sequence encoding the **pyruvate carboxylase** polypeptide described above, or its complement; (2) an isolated nucleic acid molecule comprising a polynucleotide that hybridizes under stringent hybridization conditions to the polynucleotide of (1), where the polynucleotide does not hybridize under stringent hybridization conditions to a polynucleotide having a nucleotide sequence consisting of only A residues or of only T residues; (3) making a recombinant vector comprising inserting the isolated nucleic acid molecule of (1) into a vector; (4) a recombinant vector produced by the method of (3); (5) making a recombinant host cell comprising introducing the recombinant vector into a host cell; (6) a recombinant host cell produced by the method of (5); and (7) a recombinant method for producing the **pyruvate carboxylase** polypeptide, or a method of making amino acids expressed by (1).

BIOTECHNOLOGY - Preferred Nucleic Acid: The polynucleotide cited in (1) has the complete nucleotide sequence comprising 3621 bp (dna1) fully defined in the specification. The polynucleotide has the nucleotide sequence of dna1, and encodes the **pyruvate carboxylase** polypeptide with the sequence P1. The polynucleotide is a DNA or RNA. Preparation (Claimed): The recombinant method for producing the **pyruvate carboxylase** polypeptide comprises culturing the recombinant host cell cited above, under conditions where the polypeptide is expressed, and recovering the polypeptide. The **pyruvate carboxylase** is expressed 2-20-fold higher than its expression in *C. glutamicum*. The method also involves making amino acids by expressing the nucleotide sequence of (1), and recovering the amino acids. In particular, the amino acid is lysine.

USE - The polypeptide is useful as an anaplerotic enzyme replenishing oxaloacetate consumed for biosynthesis during growth. The polypeptide is also useful for lysine or glutamic acid production in industrial fermentations.

EXAMPLE - The cosmid library used was constructed by cloning *Corynebacterium glutamicum* chromosomal DNA into the Supercos vector. A cosmid containing the *C. glutamicum* **pyruvate carboxylase** gene was isolated, and subjected to sequence analysis. A 3621-bp of cosmid III F10 was sequenced. A 3420-bp open reading frame was identified, which encoded a protein of 1140 amino acids. The protein was 63% identical to *M. tuberculosis* **pyruvate carboxylase**, and 44% identical to human **pyruvate carboxylase**. This protein had a molecular mass of 123.6 kDa. (29 pages)

L21 ANSWER 2 OF 8 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
 DUPLICATE 2
 ACCESSION NUMBER: 2002:389315 BIOSIS
 DOCUMENT NUMBER: PREV200200389315
 TITLE: **Pyruvate carboxylase** polypeptide from
 Corynebacterium glutamicum.
 AUTHOR(S): **Sinskey, Anthony J.** [Inventor, Reprint author];
 Lessard, Philip A. [Inventor]; Willis, Laura B. [Inventor]
 CORPORATE SOURCE: Boston, MA, USA
 ASSIGNEE: Archer Daniels Midland Company
 PATENT INFORMATION: US 6403351 June 11, 2002
 SOURCE: Official Gazette of the United States Patent and Trademark
 Office Patents, (June 11, 2002) Vol. 1259, No. 2.
 <http://www.uspto.gov/web/menu/patdata.html>. e-file.
 CODEN: OGUPE7. ISSN: 0098-1133.
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 ENTRY DATE: Entered STN: 17 Jul 2002
 Last Updated on STN: 17 Jul 2002
 AB The present invention concerns an anaplerotic enzyme from
 Corynebacterium glutamicum which replenishes

oxaloacetate consumed during lysine and glutamic acid production in industrial fermentations. In particular, isolated nucleic acid molecules are provided encoding the **pyruvate carboxylase** protein. **Pyruvate carboxylase** polypeptides are also provided.

L21 ANSWER 3 OF 8 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 3
ACCESSION NUMBER: 2001:336570 BIOSIS
DOCUMENT NUMBER: PREV200100336570
TITLE: **Pyruvate carboxylase** from
Corynebacterium glutamicum.
AUTHOR(S): **Sinskey, Anthony J.** [Inventor, Reprint author];
Lessard, Philip A. [Inventor]; Willis, Laura B. [Inventor]
CORPORATE SOURCE: Boston, MA, USA
ASSIGNEE: Massachusetts Institute of Technology
PATENT INFORMATION: US 6171833 January 09, 2001
SOURCE: Official Gazette of the United States Patent and Trademark
Office Patents, (Jan. 9, 2001) Vol. 1242, No. 2. e-file.
CODEN: OGUPE7. ISSN: 0098-1133.
DOCUMENT TYPE: Patent
LANGUAGE: English
ENTRY DATE: Entered STN: 18 Jul 2001
Last Updated on STN: 19 Feb 2002

AB The present invention concerns an anaplerotic enzyme from
Corynebacterium glutamicum which replenishes
oxaloacetate consumed during lysine and glutamic acid production in
industrial fermentations. In particular, isolated nucleic acid molecules
are provided encoding the **pyruvate carboxylase**
protein. **Pyruvate carboxylase** polypeptides are also
provided.

L21 ANSWER 4 OF 8 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN
ACCESSION NUMBER: 2000-12396 BIOTECHDS
TITLE: Novel polynucleotides encoding **Corynebacterium**
glutamicum pyruvate-carboxylase
useful for industrial fermentation processes comprises a
specific nucleotide sequence;
plasmid pRR850 vector-mediated gene transfer for lysine
and glutamic acid scale-up
AUTHOR: **Sinskey A J; Lessard P A; Willis L**
B
PATENT ASSIGNEE: Sinskey A J; Lessard P A; Willis L B
LOCATION: Boston, MA, USA; Framingham, MA, USA; Cambridge, MA, USA.
PATENT INFO: WO 2000039305 6 Jul 2000
APPLICATION INFO: WO 1998-US27301 23 Dec 1998
PRIORITY INFO: WO 1998-US27301 23 Dec 1998
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2000-465746 [40]
AB An isolated DNA (I, 3,621 bp) with a DNA sequence with at least 95%
identity to a DNA sequence encoding **pyruvate-**
carboxylase (II, EC-4.1.1.31), is claimed. (I) encodes a 1,140
amino acid protein sequence (specified) or is a DNA sequence encoding
(II) contained within cosmid clone ATCC 10801 or their complements. Also
claimed are: an isolated DNA probe (Ia) which hybridizes to (I) under
stringent conditions and which does not hybridize to a DNA sequence
having only A and T residues; making a recombinant vector (III, e.g.
plasmid pRR850) and host cell (IV); (III) and (IV) obtained by the above
method; production of (II); and an isolated (II) having an amino acid
sequence at least 95% identical to that encoded by (I). (II) is useful
for producing amino acids, preferably lysine and glutamic acid in
industrial fermentations and for replenishing oxaloacetate consumed for
biosynthesis during growth. (II) is expressed 2- to 20-fold higher than

in *Corynebacterium glutamicum*. (Ia) is used to confirm the expression of (II). (51pp)

L21 ANSWER 5 OF 8 MEDLINE on STN DUPLICATE 5
ACCESSION NUMBER: 1999019028 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9802220
TITLE: Sequence of the *Corynebacterium glutamicum* pyruvate carboxylase gene.
AUTHOR: Koffas M A; Ramamoorthi R; Pine W A; Sinskey A J; Stephanopoulos G
CORPORATE SOURCE: Department of Chemical Engineering, Massachusetts Institute of Technology, Cambridge 02139, USA.
SOURCE: Applied microbiology and biotechnology, (1998 Sep) 50 (3) 346-52.
JOURNAL code: 8406612. ISSN: 0175-7598.
PUB. COUNTRY: GERMANY: Germany, Federal Republic of
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AF038548
ENTRY MONTH: 199812
ENTRY DATE: Entered STN: 19990115
Last Updated on STN: 19990115
Entered Medline: 19981214

AB **Pyruvate carboxylase** is an important anaplerotic enzyme replenishing oxaloacetate consumed for biosynthesis during growth, or lysine and glutamic acid production in industrial fermentations. We used regions of homology from **pyruvate carboxylase** sequences of 12 different species (corresponding to the ATP- and pyruvate-binding sites), to design polymerase chain reaction (PCR) primers for amplifying a fragment of the **pyruvate carboxylase** (pc) gene from *C. glutamicum* genomic DNA. This 850-base-pair fragment was used to probe a *C. glutamicum* cosmid library and four candidate pc cosmids were identified. The fragment was sequenced and the sequence of the complete gene was obtained by several rounds of primer synthesis, PCR on one of the positive cosmids, and sequencing. The *C. glutamicum* pc sequence shows 64% homology with the pc gene of *Mycobacterium tuberculosis* and 44% homology with the human pc gene. Regions of ATP, pyruvate and biotin binding have also been identified.

L21 ANSWER 6 OF 8 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
ACCESSION NUMBER: 97:356946 SCISEARCH
THE GENUINE ARTICLE: WX363
TITLE: Elucidation of anaplerotic pathways in *Corynebacterium glutamicum* via C-13-NMR spectroscopy and GC-MS
AUTHOR: Park S M; ShawReid C; Sinskey A J; Stephanopoulos G (Reprint)
CORPORATE SOURCE: MIT, DEPT CHEM ENGN, CAMBRIDGE, MA 02139 (Reprint); MIT, DEPT CHEM ENGN, CAMBRIDGE, MA 02139; MIT, DEPT BIOL, CAMBRIDGE, MA 02139
COUNTRY OF AUTHOR: USA
SOURCE: APPLIED MICROBIOLOGY AND BIOTECHNOLOGY, (APR 1997) Vol. 47, No. 4, pp. 430-440.
Publisher: SPRINGER VERLAG, 175 FIFTH AVE, NEW YORK, NY 10010.
ISSN: 0175-7598.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE; AGRI
LANGUAGE: English
REFERENCE COUNT: 24

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB We have obtained direct evidence indicating the presence of

pyruvate-carboxylating activity in **Corynebacterium glutamicum**, a lysine-overproducing bacterium. This evidence was obtained through the use of C-13 nuclear magnetic resonance (NMR) spectroscopy and gas chromatography/mass spectrometry (GC-MS) of secreted metabolites in a lysine fermentation. The distribution of C-13 label after multiple turns in the tricarboxylic acid cycle was accounted for properly to obtain predictions for [C-13] metabolite enrichments that were employed in the interpretation of C-13-NMR and GC-MS data. Of critical importance in arriving at the conclusions was the use of C. glutamicum mutants with deletions of the pyruvate kinase and/or phosphoenolpyruvate carboxylase enzymes. Our results demonstrate the presence of pyruvate-carboxylating pathway(s) in C. glutamicum operating simultaneously with phosphoenolpyruvate carboxylase, with the latter enzyme contributing approximately 10% of the total oxaloacetate synthesis during the lysine-production phase with pyruvate and gluconate as carbon sources. These findings are important for developing strategies to increase the total carbon flux for synthesis of amino acids of the aspartate family through metabolic engineering.

L21 ANSWER 7 OF 8 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN DUPLICATE 6

ACCESSION NUMBER: 94068004 EMBASE
DOCUMENT NUMBER: 1994068004
TITLE: Effects of phosphoenol **pyruvate carboxylase** deficiency on metabolism and lysine production in **Corynebacterium glutamicum**

AUTHOR: Gubler M.; Sung Min Park; Jetten M.; Stephanopoulos G.;
Sinskey A.J.

CORPORATE SOURCE: F. Hoffmann-La Roche AG, CH-4002 Basel, Switzerland
SOURCE: Applied Microbiology and Biotechnology, (1994) 40/6
(857-863).

ISSN: 0175-7598 CODEN: AMBIDG

COUNTRY: Germany
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 004 Microbiology
LANGUAGE: English
SUMMARY LANGUAGE: English

AB The phosphoenol **pyruvate carboxylase** gene (ppc) of lysine-producing **Corynebacterium glutamicum** and C. lactofermentum strains was inactivated by marker exchange mutagenesis. The mutants lacked completely phosphoenol **pyruvate carboxylase** (PEP carboxylase) activity, but grew in minimal medium containing glucose as the sole carbon source. In addition, the ppc- strains produced equivalent titers of lysine in shake flasks and in 10-1 fermentation experiments as their parent strains. To address the question of how ppc- **Corynebacterium** strains generate oxaloacetate (OAA) for their own metabolism as well as for high-level lysine production, we measured the activities of enzymes leading to OAA synthesis. Whereas **pyruvate carboxylase** activity was not detected in any of the strains, phosphoenol pyruvate carboxykinase (PEP carboxykinase) activity was found to be significantly higher in C. glutamicum ppc mutants compared to the parent strains. On the other hand, PEP carboxykinase activity in C. lactofermentum was essentially absent. As glyoxylate cycle enzymes are strongly repressed by glucose, they are not likely to compensate for the lack of PEP carboxylase activity, PEP carboxykinase, among several candidates, could play this role.

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ACCESSION NUMBER: 94103653 EMBASE
DOCUMENT NUMBER: 1994103653
TITLE: Regulation of phospho(enol)-pyruvate- and oxaloacetate-converting enzymes in **Corynebacterium**

glutamicum.

AUTHOR: Jetten M.S.M.; Pitoc G.A.; Follettie M.T.; **Sinskey A.J.**

CORPORATE SOURCE: Department of Biology, Massachusetts Technology Institute, 77 Massachusetts Avenue, Cambridge, MA 02139, United States

SOURCE: Applied Microbiology and Biotechnology, (1994) 41/1 (47-52).
ISSN: 0175-7598 CODEN: AMBIDG

COUNTRY: Germany

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 004 Microbiology

LANGUAGE: English

SUMMARY LANGUAGE: English

AB The presence and properties of the enzymes involved in the synthesis and conversion of phospho(enol)pyruvate (PEP) and oxaloacetate (OAA), the precursors for aspartate-derived amino acids, were investigated in three different *Corynebacterium* strains. This study revealed the presence of both PEP carboxykinase $0.29 \mu\text{mol} \cdot \text{min}^{-1} \cdot \text{mg}^{-1}$ of protein [units (U) $\cdot \text{mg}^{-1}$] and PEP synthetase ($0.13 \text{ U} \cdot \text{mg}^{-1}$) in *C. glutamicum* as well as pyruvate kinase ($1.4 \text{ U} \cdot \text{mg}^{-1}$) and PEP carboxylase ($0.16 \text{ U} \cdot \text{mg}^{-1}$). With the exception of PEP carboxykinase these activities were also present in glucose-grown *C. flavum* and *C. lactofermentum*. **Pyruvate carboxylase** activity was not detected in all three species cultivated on glucose or lactate. At least five enzyme activities that utilize OAA as a substrate were detected in crude extracts of *C. glutamicum* citrate synthase ($2 \text{ U} \cdot \text{mg}^{-1}$), malate dehydrogenase ($2.5 \text{ U} \cdot \text{mg}^{-1}$), glutamate: OAA transaminase ($1 \text{ U} \cdot \text{mg}^{-1}$), OAA-decarboxylating activity ($0.89 \text{ U} \cdot \text{mg}^{-1}$) and the previously mentioned PEP carboxykinase ($0.29 \text{ U} \cdot \text{mg}^{-1}$). The partially purified OAA-decarboxylase activity of *C. glutamicum* was completely dependent on the presence of inosine diphosphate and Mn^{2+} , had a Michaelis constant (K_m) of 2.0 mM for OAA and was inhibited by ADP and coenzyme A (CoA). Examination of the kinetic properties showed that adenine nucleotides and CoA derivatives have reciprocal but reinforcing effects on the enzymes catalyzing the interconversion of pyruvate, PEP and OAA in *C. glutamicum*. A model for the regulation of the carbon flow based on these findings is presented.

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(FILE 'HOME' ENTERED AT 09:42:56 ON 29 MAR 2004)

FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS, LIFESCI' ENTERED AT 09:43:31 ON 29 MAR 2004

L1 8583 S PYRUVATE (A) CARBOXYLASE?

L2 7190 S GLUTAMICUM

L3 415 S L1 AND L2

L4 6447994 S CLON? OR EXPRESS? OR RECOMBINANT

L5 321 S L3 AND L4

L6 7054 S CORYNEBACTERIUM(A) L2

L7 414 S L1 AND L6

L8 321 S L4 AND L7

L9 254853 S LYSINE

L10 1966 S L9(A) (PRODUCT? OR MAK? OR MANUFACTUR?)

L11 108 S L8 AND L10

L12 92 DUP REM L11 (16 DUPLICATES REMOVED)

L13 79 S L8 AND MUTANT?

L14 15 S L10 AND L13

L15 7 DUP REM L14 (8 DUPLICATES REMOVED)
E SINSKEY A J/AU

L16 1165 S E3-E8
E LESSARD P A/AU

L17 85 S E3

E WILLIS L B/AU
L18 35 S E3
L19 1219 S L16 OR L17 OR L18
L20 26 S L7 AND L19
L21 8 DUP REM L20 (18 DUPLICATES REMOVED)

	Issue Date	Pages	Document ID	Title
1	20030717	8	US 20030134397 A1	Method for producing L-glutamic acid by fermentation
2	20030508	53	US 20030087381 A1	Metabolically engineered organisms for enhanced production of oxaloacetate-derived biochemicals
3	20030313	214	US 20030049804 A1	Corynebacterium glutamicum genes encoding metabolic pathway proteins
4	20030206	29	US 20030027305 A1	Pyruvate carboxylase from Corynebacterium glutamicum
5	20021226	158	US 20020197605 A1	Novel Polynucleotides
6	20021128	21	US 20020177202 A1	Feedback-resistant pyruvate carboxylase gene from corynebacterium
7	20021017	21	US 20020151010 A1	Regulation of carbon assimilation
8	20020509	24	US 20020055153 A1	L-lysine-producing corynebacteria and process for the preparation of lysine ✓
9	20040224	258	US 6696561 B1	Corynebacterium glutamicum genes encoding proteins involved in membrane synthesis and membrane transport
10	20030729	19	US 6599732 B1	Regulation of carbon assimilation
11	20020924	32	US 6455284 B1	Metabolically engineered E. coli for enhanced production of oxaloacetate-derived biochemicals

	Issue Date	Pages	Document ID	Title
12	20020611	29	US 6403351 B1	Pyruvate carboxylase polypeptide from Corynebacterium glutamicum
13	20010109	29	US 6171833 B1	Pyruvate carboxylase from corynebacterium glutamicum
14	19921229	12	US 5175108 A	Plasmids from corynebacterium glutamicum and plasmid vectors derived therefrom

	Issue Date	Pages	Document ID	Title
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6	20030729	19	US 6599732 B1	Regulation of carbon assimilation
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8	20020611	29	US 6403351 B1	Pyruvate carboxylase polypeptide from Corynebacterium glutamicum
9	20010109	29	US 6171833 B1	Pyruvate carboxylase from corynebacterium glutamicum
10	19921229	12	US 5175108 A	Plasmids from corynebacterium glutamicum and plasmid vectors derived therefrom

	Issue Date	Pages	Document ID	Title
1	20030501	27	US 20030082756 A1	1,3-propanediol and polymer derivatives from a fermentable carbon source
2	20030417	39	US 20030072746 A1	Method of alleviating chronic pain via peripheral glutaminase regulation
3	20030320	453	US 20030055231 A1	12 human secreted proteins
4	20030206	29	US 20030027305 A1	Pyruvate carboxylase from Corynebacterium glutamicum
5	20020806	27	US 6428767 B1	Method for identifying the source of carbon in 1,3-propanediol
6	20020611	29	US 6403351 B1	Pyruvate carboxylase polypeptide from Corynebacterium glutamicum
7	20010109	29	US 6171833 B1	Pyruvate carboxylase from corynebacterium glutamicum

	L #	Hits	Search Text
1	L1	725	Pyruvate adj carboxylase\$2
2	L3	0	"c. glutamicum"
3	L2	1	corynebacterium adj glutamicum
4	L4	745	corynebacterium adj glutamicum
5	L5	14	l1 same l4
6	L6	59691	lysine or "amino adj acid\$2"
7	L7	196	l4 same l6
8	L8	10	l1 same l7
9	L9	23696	SINSKEY-ANTHONY-J LESSARD-PHILIP-A WILLIS
10	L10	7	l1 and l9